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Annual
Oilheating
Analysis

fueloil & oil heat

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A constant and continuous control of stock transfers is required to maintain fully accurate accounting of bulk inventories. Errors and stock losses will repeatedly occur unless they are corrected as they take place—or checked-out at the end of each day—instead of allowing them to accumulate over the period of a week, or a month. By installing Brodie Meters at each fill-pipe, Bulk Plants, large and small, enjoy the advantage of a full time auditor, who never leaves the job—even for an instant—and whose salary is the first and last cost in the initial purchase. For full details on Brodie Meters, write today.

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REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

VOL. 6, NO. 9

fueloil & oil heat

JANUARY 1948

Charles R. Holloway, Jr. was selected Portland's Junior First Citizen for 1947 by the Portland (Ore.) Junior Chamber of Commerce and was honored with a banquet, sponsored by that group, on January 8. Guest of honor at the banquet was Henri Bonnet, Ambassador from France. Other distinguished guests included Oregon Senator Wayne L. Morse, Governor John H. Hall and Mayor Earl Riley, Portland. Mr. Holloway is sales manager, Liberty Fuel & Ice Co., Portland and serves on the board of directors, Oregon Fuel Merchants Association. He is a past-chairman, Distribution Division, Oil-Heat Institute of America, Inc. for the Pacific Coast and is active in civic affairs.

Michael L. Lavorgna, recently resigned as secretary, Comfort Equipment Corp., now is sales manager, Heating Div., Richmond Radiator Co., New York 17, N. Y. He has revealed company plans to introduce a complete line of heating products for all fuels to augment present equipment.

Mitchel Landau has been designated assistant to the president, York-Shipley, Inc., York, Pa. and will be in full charge of development of a merchandising program for all York - Shipley products, both in residential and industrial oilfired heating equipment fields. Mr. Landau, a prominent contributor of heating articles to trade journals, began his career in the industry as a heating engineer with Acme Mfg. Co., Philadelphia. In 1936 he transferred to the ABC Oil Burner and

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A. E. COBURN, *Editor* — ROBERT GRAY, *Business Manager* — A. G. WINKLER, *Advertising Manager*

Pacific Coast Representative: Don Harway
1709 West 8th St., Los Angeles 14, Cal. Phone: Fairfax 8576
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THE MERCOID CORPORATION ✩ 4201 BELMONT AVE., CHICAGO 41, ILL.

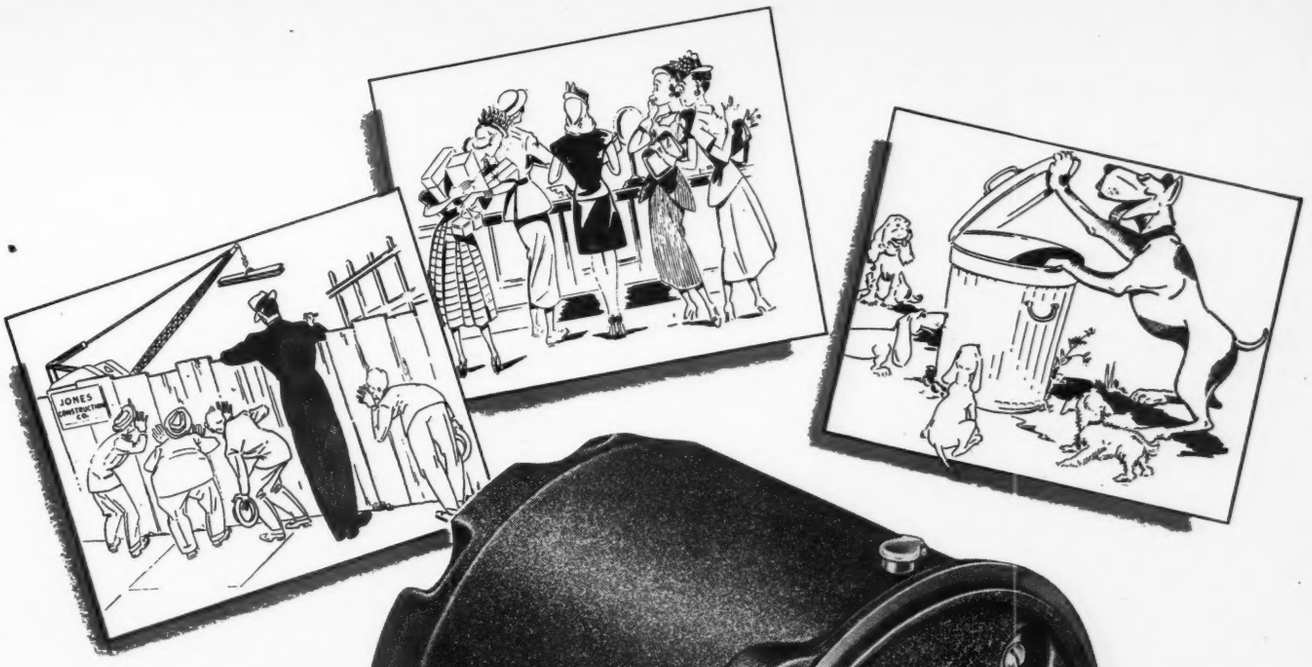
Engineering Co., Philadelphia, in charge of its heating and air conditioning division. During the War Mr. Landau performed engineering work on power plant and oil refining operations.

Henry Aronson has joined Dole Valve Co., Chicago 12, Ill. He formerly was with Premier Furnace Co. and will spend the major part of his time as a sales engineer in Dole's newly created warm air heating division.

H. Melvin Carnahan, assistant manager, Pittsburgh sales office, American Radiator and Standard Sanitary Corp., Pittsburgh 30, Pa., advanced to the position of manager, following the retirement of E. H. Eggleston, who held the position since 1910. Mr. Carnahan has been in American-Standard's sales department for the past twelve years in Chicago and Baltimore. He entered military service during the War and became a captain in the Medical Administration Corps. He returned to the company's Chicago office as assistant manager. In June last year transferred to Pittsburgh.

J. F. Kotchevar and *J. H. Reichwein,* formerly chief electrical engineer and general superintendent, respectively, Janette Mfg. Co., Chicago, now are affiliated with Revcor, Chicago 24, Ill., manufacturers of a line of blowers and blower wheels.

Tim J. McCauley has been named assistant general sales manager, Heating and Appliance Div., Evans Products Co., Plymouth, Mich. His prewar experience includes several years of sales and merchandising training at J. L. Hudson Co., Detroit, Mich. During the War he was an Army Air Forces major, and has been directing Veterans Administration flight training in Michigan prior to assuming his present duties. Under his guidance, the Michigan program developed into the largest in the country.



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Editorial Leaks

Another January issue may represent only a twelfth of an annual subscription to those who receive it, but to the staff which has to prepare it, the January issue is a milestone. During the month of December each year, while others are remembering their friends, buying gifts, trimming Christmas trees, and anticipating the New Year's Eve party, our staff is buried under an avalanche of questionnaire returns, running figures into the calculating machine and taking out percentages. December 25, and January 1, are only days on which there is too little heat in the office.

It is not that anyone here feels abused. Nobody does, for there is a sense of accomplishment in cataloging the doings of an active industry. It is only that we could think of better times in the year for the preparation of the year's largest and most important issue. We established the tradition of the January issue and we are almost content to live with it.

This issue, like those of the past, is compiled almost entirely from the detailed information given us in confidence by hundreds of dealers. These men received four-page, single-spaced forms early in December, asking for information on 212 details of their business activity during the last year. Many threw the questionnaires into the waste basket, or delayed an answer so long that the information could not be used. Hundreds of others took the time and controlled their patience to supply the detail which is the backbone of this issue. To those men, and to their helpers who helped to compile the information, we wish to make a deep bow. To those men and helpers we wish to dedicate this January issue.

◈

Fueloil Coordinators' meetings and supply conferences are getting as common these days as a Russian veto, and in too many cases, not much more productive of good. We heard about one the other day that may not produce any more fueloil for the immediate future, but a hint was dropped that all of us should ponder.

Thomas E. Dewey, Governor of New York, and occasional presidential candidate, was terminating a session at which all industry men had promised their help and cooperation in easing the acute oil supply situation. Gov. Dewey thanked those assembled for their attendance, and for their pledges of voluntary help in furthering the program. Then he put it on the line.

We do not attempt to quote the Governor directly, but in effect he said, "Thank you for your pledges of cooperation. I sincerely hope that your voluntary program of conservation will be adequate, but gentlemen, you should know that the moment the first old lady or child dies of pneumonia in a cold house in this state, at that moment the State of New York will be in the fueloil business."

Though other governors may not have said the same thing to their committees, it may be only that they thought it was unnecessary.

Mayor William O'Dwyer of New York City, not only said much the same thing, but he followed through by sending a delegation to Washington over the New Year's weekend to negotiate for tank ships to haul oil out of the Gulf for city buildings and utilities.

We abhor socialization of the oil industry as much as anyone, but the way to head it off is not to tell the public, or the public's officials that they shouldn't burn oil.

◈

It seems like a hopeless task to convince leaders in the petroleum business that they are estimating distillate demand too low. While most statisticians have been talking about a 20% increase in 1947, and a few hardy souls went as high as 22% in their estimates of distillate increase, the number of domestic oilburners installed last year increased 27%, and the weather this season, as might have been expected, is more nearly normal than last season.

Official API estimates put the demand for distillates at 37 million gallons a day in 1947, up 18.8% from 1946. They estimate the 1948 demand at 41 million gallons, an increase of 10% over 1947. The kerosene increase in 1947 is estimated at 13 million gallons, up 13% from 1946, and the 1948 demand is expected to increase only 7.3%.

Based on these estimates, it will not be too surprising if the industry finds it is short of product next heating season.

◈

Investigations of the "grey market" in fueloil are springing up across the country as scant supplies tempt fuel-hungry dealers and consumers to bid for the available product. Dealer prices under the rack have ranged from 22 cents straight to the posted price plus a box of cigars for the boys at the plant.

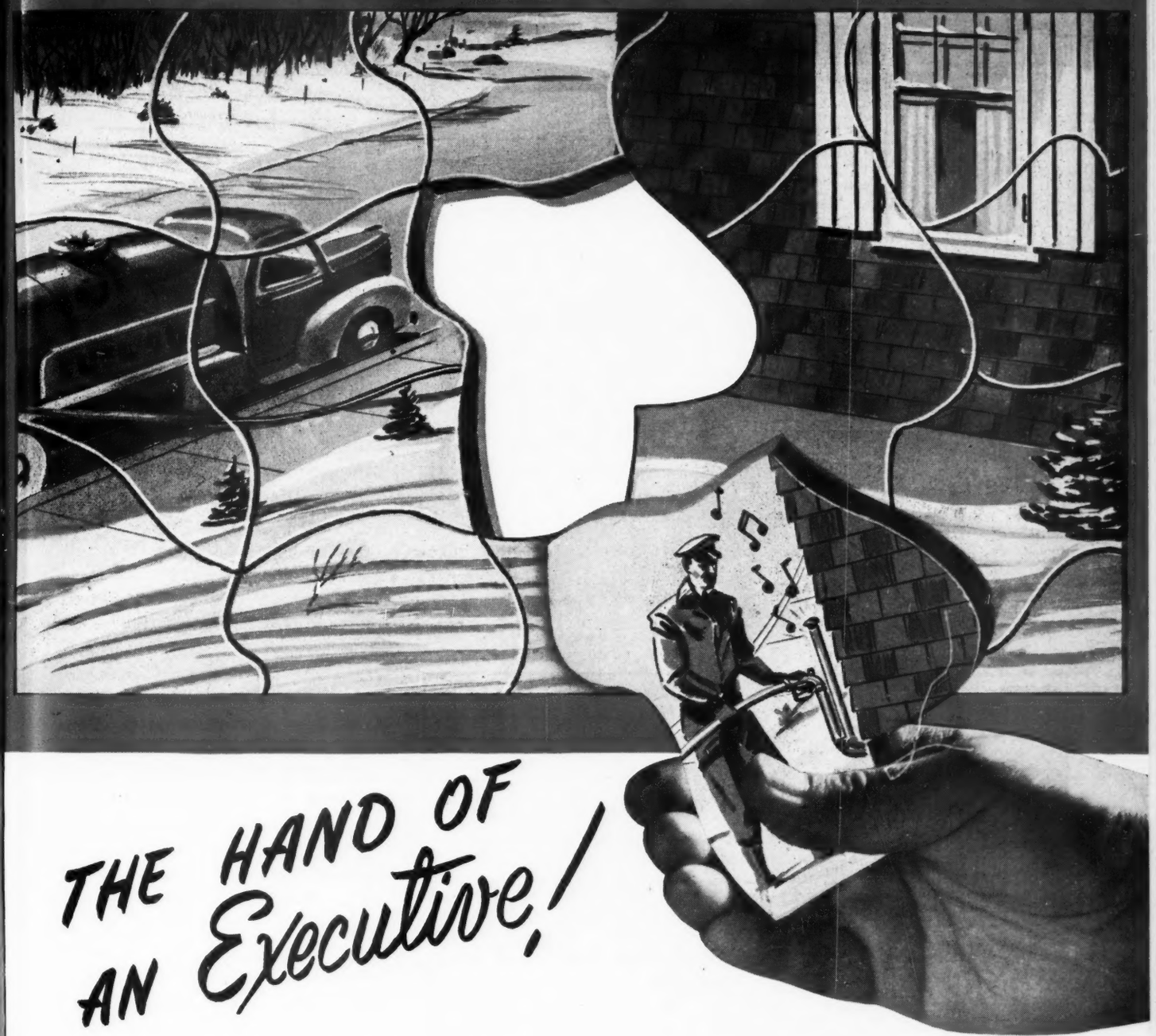
No reasonable man in the business believes that such demands are good for the oilheating business, and therefore every reasonable man is against them. However, it is a little hard to see what benefit can accrue from the investigations, except possibly to furnish some ammunition for campaign speeches next fall. It is not against the law in any area we know to increase the price of fueloil—or anything else except rent. It is not against the law for one man to out-bid another for a scarce oil, or for him to pass along to the customer any increase he has had to pay. The investigations may uncover sharp practice (and we hope they do) but there is nothing illegal hinted or charged.

Posted prices are largely nominal east of the Rocky Mountains. Every load is worth whatever the dealer has to pay and the price this morning is not necessarily the price for this afternoon. Such chaos in pricing is not good for the industry. The public is grumbling while it pays.

Though the probable benefit is obscure we hope that the investigations by city and state officials will serve to quiet an impending public explosion aimed at the oilheating business.

◈

First speech on the floor of the Second Session of the 80th Congress was a request for an immediate investigation of the fueloil situation. "Let's not fiddle while we have no fueloil to burn," said Robert Tripp Ross, representative from New York.



THE HAND OF AN Executive!

At the fingertips of the oil executive today are facts and figures indicating the importance of VENTALARM Signal in the promotion of efficient, automatic home fuel oil delivery. Analysis of such figures shows clearly VENTALARM fast-filling, non-spilling efficiency—discloses 20 to 30 per cent reduction in fuel delivery costs, maximum use of manpower and trucks, minimum waste of time, plus complete safety at the actual fill point. More and more executives have noted these facts—and by their executive decision, VENTALARM Signal is now installed in over one million oil heated homes.

★ Equip your customers' tanks with VENTALARM.

★ *Your* executive decision now will greatly increase your profits *this* winter!

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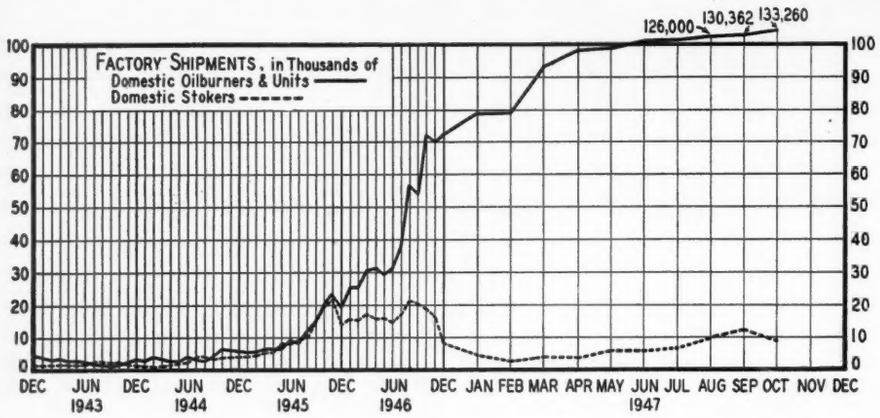
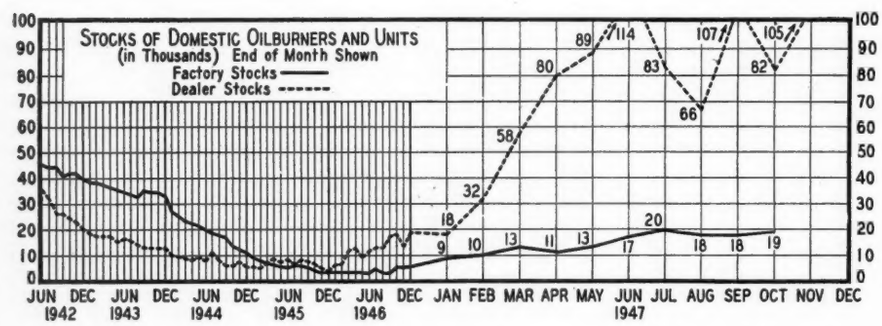

126,000
130,362
133,260
FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943 1944 1945 1946 1947

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 162 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	OCTOBER			TEN MONTHS		
	1947	1946	Percent Change	1947	1946	Percent Change
Conversion	103,465	63,591	+ 62.7	839,433	351,983	+138.5
Boiler units	8,578	3,374	+154.2	52,734	19,150	+175.4
Furnace units	21,217	5,354	+296.2	163,125	23,833	+679.0
All domestic	133,260	72,319	+184.2	1,055,292	394,966	+167.2
Commercial	4,971	4,279	+ 16.2	46,084	31,870	+ 44.6
Total	138,231	76,598	+ 80.4	1,101,376	426,836	+158.0

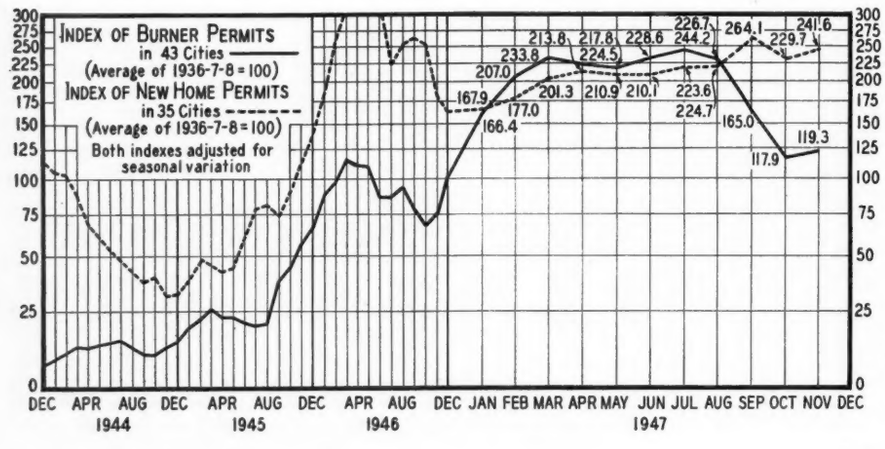

STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942 1943 1944 1945 1946 1947

November Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
Highest	$540	$1100	$850
Lowest	225	550	500
Nov. Aver.	348	716	655
Oct. Aver.	320	693	625

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE			RETAIL		
November	143.1	Six months ago	152.0	November	146.4	Six months ago	146.0
October	141.5	Year ago	156.7	October	145.6	Year ago	147.7


INDEX OF BURNER PERMITS
in 43 Cities
(Average of 1936-7-8 = 100)
INDEX OF NEW HOME PERMITS
in 35 Cities
(Average of 1936-7-8 = 100)
Both indexes adjusted for seasonal variation
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947

Oilheating Trends

NOVEMBER INSTALLATIONS of oilburners and units are estimated at 80,056, a substantial drop from October's 101,588, but still an all-time peak for the November month. Again it is evident that much of November's installation work was in new homes . . . fully half of the installations by the reporting dealers being in that category. Total installations for eleven months were thus approximately 760,116.

Replacements in November accounted for 11,208 of the burner installations so that only 68,848 represented new oil users.

IMPROVED BURNER EFFICIENCIES: In addition to the regular annual cleaning and adjustment work that better oilheating dealers do every year, about three-fifths of the reporting dealers are making special efforts this fall to get higher average efficiencies for fuel conservation. These are efforts along particular lines, not followed in former years. Typical of the kind of efforts mentioned are these: Sales drives on insulation and stormsash by dealers not previously selling these items; Weekly service meetings educating servicemen to sell fuel conservation items, using the new API folder as a sort of catalogue; Supplying servicemen with check lists that they can study over with the consumer, leaving him a duplicate copy as they turn in the original to the office; Owners of burners antiquated or poorly installed are encouraged to replace them; Using for the first time combustion testing instruments; Advertising in the newspapers steps to take in the proper care of oil furnaces; Urging installation of clock thermostats for lower night temperatures; Special campaigns to rebuild combustion chambers and install draft controls; Campaigns to sell blower units on gravity furnaces; Several types of general educational mailings.

BURNER SALES POLICY: The reporting dealers were asked if they are continuing to sell all of the oilburners that they can get prospects to buy. Approximately one-fourth of them are still making full scale sales efforts, while the other three-fourths are restricting their sales efforts to varying degrees. In general those who are holding back on sales are limiting

their orders to replacement equipment or to the sale of complete units to take the place of worn out coal equipment that has to be replaced. Some are naturally continuing to install oilburners in new homes where they have made prior commitments.

EFFECT OF SUPPLY PUBLICITY: In the impression of the reporting dealers the effect of the adverse oil supply publicity since the middle of the year has been to retard oilburner sales by about one-third. In other words, they believe that sales in the second half of the year would have been about 50% higher than they were if no one had been held back by uncertainty and if the industry generally had gone all out on sales promotion. They base this impression on the number of active prospects in their files that did not buy during the period and who had said that they would wait a while to see how the supply would shape up. All sections of the country experience this retarding effect with the heaviest showing in the Midwest where 40% of prospects who plan to buy did not because of the unfavorable publicity. In New England 23% held back and in the Mid-Atlantic states 32%. If there had been no such retarding influence, the year 1947 would have seen fully a million burners installed.

FUELOIL PRICE VARIATIONS: Under today's disturbed supply conditions it is understandable in some markets that fueloil is being sold at prices above the posted figure. There are a lot of stories going around, such as the one about dealers in Detroit selling at from 18¢ to 20¢ to new burner users. However, such situations are relatively uncommon as the study of prices this month shows. The figures in the table that follow were as of December 1, or in other words they do not include the various increases that occurred around the middle of December. It is interesting to notice that even under today's conditions a fair amount of product is sold below posted prices.

The last two columns of the table . . . average highest reported and average lowest reported . . . indicate the average high and low figures given by all reporting dealers in those sections. They do not show the highest and lowest individual prices, since those are not particularly significant. In commenting on the price situation quite a number of the dealers made positive statements of their price views. Of all those reporting 19% say that fueloil prices should be raised as high as is necessary to insure getting a full supply to take care of all customers. On the other hand, 14% of the companies reporting feel quite definitely that fueloil prices are either high enough now or too high, and that no steps should be taken to place a heavier burden on the consumer. Of course prices have actually been raised since these reports were sent in.

Oilburner and Building Permits

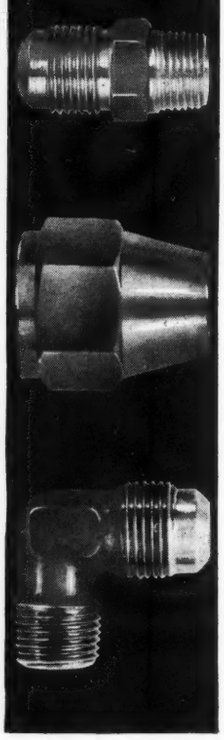
	OILBURNERS				DWELLINGS			
	November		11 MONTHS		November		11 MONTHS	
	1947	1946	1947	1946	1947	1946	1947	1946
Baltimore, Md.	560	599	..	..	399	553	3059	4282
Binghamton, N. Y.	..	..	..	..	10	4	103	116
Boston, Mass.	777	1200	..	..	40	11	571	192
Bridgeport, Conn.	257	100	1609	774	..	..	..	..
Buffalo, N. Y.	..	..	..	..	11	10	196	201
Des Moines, Iowa	..	..	..	..	49	49	927	1156
Detroit, Mich.	31	323	..	1703	..	394	..	7761
Elizabeth, N. J.	145	60	768	716	10	2	93	19
Freeport, N. Y.	30	68	408	462	..	..	..	..
Greenwich, Conn.	..	..	..	..	44	14	245	186
Hackensack, N. J.	..	..	..	..	2	4	34	114
Hartford, Conn.	242	278	1740	970	..	..	..	..
Irvington, N. J.	25	30	471	502	13	5	36	21
Lynn, Mass.	..	..	..	..	9	11	110	58
Meriden, Conn.	..	20	..	209	..	..	..	..
Milwaukee, Wisc.	300	199	2764	1099	65	65	1266	1437
Minneapolis, Minn.	341	72	2348	644	131	162	1129	1469
Montclair, N. J.	28	38	340	427	..	..	..	..
Morristown, N. J.	..	..	..	..	1	106	..	114
Mt. Vernon, N. Y.	42	44	498	559	..	..	..	..
Newark, N. J.	145	..	..	489	..	..	..	..
New Bedford, Mass.	64	51	584	489	..	..	..	..
New Haven, Conn.	75	67	893	464	..	..	..	..
New Orleans, La.	1	0	1	0	..	..	..	..
New Rochelle, N. Y.	52	53	395	416	10	18	78	124
New York City (total)	..	3155	..	37,376	..	..	..	..
Brooklyn-Queens	..	2469	..	31,080	..	..	..	..
Manhattan, Bronx, Rchd	733	686	8361	6296	..	..	..	..
Norfolk, Va.	80	52	884	436	58	5	747	345
Oakland, Calif.	2	2	14	6	..	..	..	..
Omaha, Neb.	439	84	2593	884	83	57	832	753
Orange, N. J.	14	35	269	267	..	0	5	4
Passaic, New Jersey	31	58	..	548	..	..	..	..
Paterson, N. J.	84	64	1111	900	3	6	61	70
Philadelphia, Pa.	1523	1308	..	7370	..	..	..	..
Plainfield, N. J.	..	..	..	..	11	0	142	87
Portland, Me.	94	66	995	479	18	7	157	102
Portland, Ore.	521	248	8463	2717	130	63	1307	1845
Poughkeepsie, N. Y.	35	23	313	215	..	..	..	..
Providence, R. I.	94	78	1036	908	9	5	141	119
Reading, Penna.	..	..	..	..	3	0	29	88
Richmond, Va.	114	52	1533	341	46	102	683	1260
Rochester, N. Y.	173	91	3481	625	..	..	..	..
Rockville Center, N. Y.	51	19	345	257	3	1	190	70
Salem, Mass.	59	37	369	223	2	1	42	16
St. Louis, Mo.	376	154	3037	867	47	33	379	312
St. Paul, Minn.	323	147	3106	1336	87	58	993	1098
Schenectady, N. Y.	151	18	907	244	..	..	..	..
Seattle, Wash.	..	..	..	..	164	106	1749	2394
Springfield, Mass.	..	..	..	..	49	46	539	558
Stamford, Conn.	39	29	368	329	..	..	..	..
Syracuse, N. Y.	28	40	..	326	24	21	295	195
Trenton, N. J.	..	..	..	..	0	1	55	15
Utica, N. Y.	..	..	..	..	4	2	69	37
Washington, D. C.	389	285	3303	2396	..	..	..	..
West Orange, N. J.	..	..	..	..	9	11	86	108
White Plains, N. Y.	26	71	326	333	9	1	90	29
Wilmington, Del.	198	162	1281	655	8	0	97	192
Worcester, Mass.	169	136	1577	789	..	..	..	..
Yonkers, N. Y.	18	157	677	674	..	..	..	..
Totals	8734	7206	57,168	28,799	1561	1540	16,535	19,072
Percent Change	+21.2		+98.5		+1.4		—13.3	

FUELOIL PRICE ACTIVITIES BY AREAS
(Based on December 1 prices for No. 2 or 3 Oil)

Area	Posted Price	% of Product Sold at Posted	% Sold Above	% Sold Below	Aver. Highest Reported	Aver. Lowest Reported
New England	10.9	95	Neg.	5	10.9	10.2
Mid-Atlantic	10.7	80	19	1	11.8	10.2
Midwest	12.0	80	20	Neg.	13.4	12.0
Pacific N.W.	9.6	97	Neg.	3	9.6	9.3

your most dependable source

BRASS FITTINGS



a complete line of brass fittings for copper tubing installations for gas and oil line use

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See our Booth #641 at the International Heating and Ventilating Exposition at Grand Central Palace, New York, Feb. 2-6, 1948.

write for catalog H

C-S

BRASS MFG. CO.

148 West 62nd St. New York 23, N.Y.

Circle 6-5249

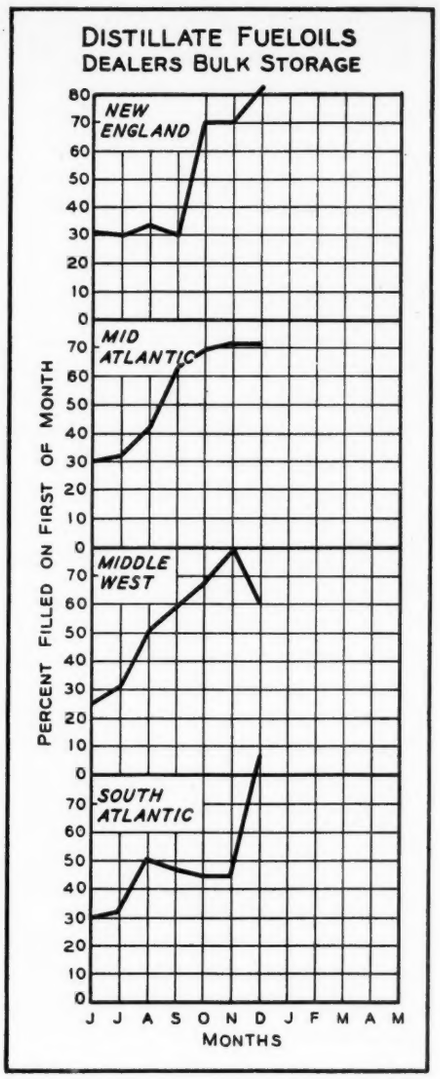
Fueloil Supplies

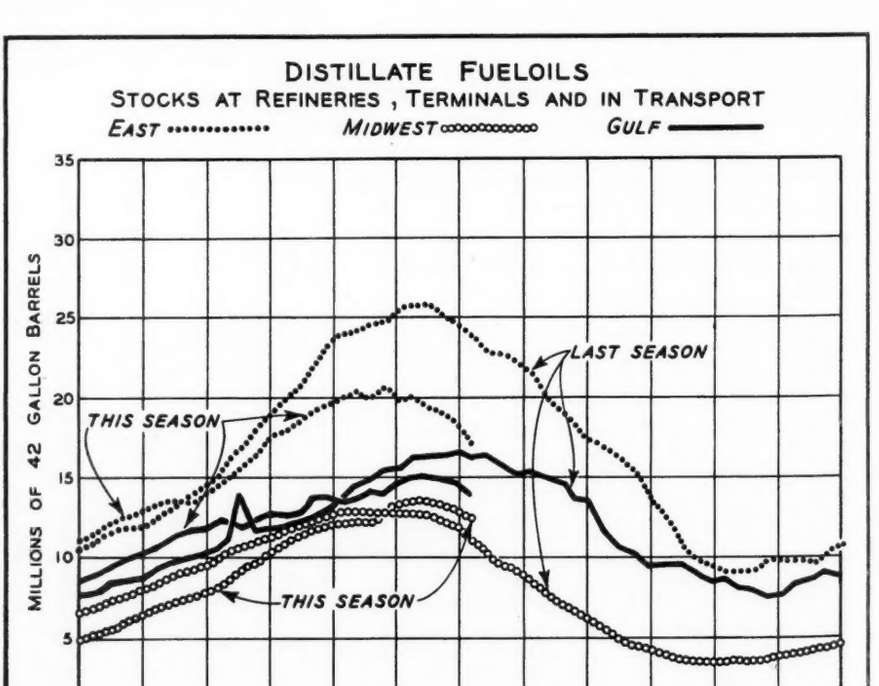
Dealer stocks of heating oil and kerosene in the areas East of the Rockies on December 1 were 4,076,000 barrels above the same date in 1946, as the table shows:

		DEALER STOCKS (Thousands of Barrels)	
		No. 2 or 3 Distillates	No. 1, Range, Kerosene
New England	12-1-47	1,802	791
	12-1-46	1,259	642
Mid-Atlantic	12-1-47	7,356	1,062
	12-1-46	5,698	1,315
South Atlantic	12-1-47	2,337	835
	12-1-46	1,006	787
EAST COAST	12-1-47	11,495	2,688
	12-1-46	7,963	2,744
Middle West	12-1-47	2,363	1,647
	12-1-46	1,819	969
EAST OF ROCKIES	12-1-47	13,858	4,335
	12-1-46	9,782	3,713
Improvement		4,076	622

Stocks of distillates at primary terminals and refineries, however, were substantially smaller than a year ago—42,906,000 bbls. on Dec. 6 compared with 51,028,000 a year ago, down 8,122,000.

Taking into account both primary and dealer stocks, the net drop is 4,046,000 barrels, while demand this winter is sure to be 25% above last winter.


DISTILLATE FUELOILS
DEALERS BULK STORAGE
NEW ENGLAND
MID ATLANTIC
MIDDLE WEST
SOUTH ATLANTIC
PERCENT FILLED ON FIRST OF MONTH
0 10 20 30 40 50 60 70 80
J J A S O N D J F M A M
MONTHS


DISTILLATE FUELOILS
STOCKS AT REFINERIES, TERMINALS AND IN TRANSPORT
EAST
MIDWEST
GULF
MILLIONS OF 42 GALLON BARRELS
0 5 10 15 20 25 30 35
THIS SEASON
LAST SEASON
THIS SEASON
JUNE JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE

Oilheating Boom Sets New Peak

Burners and Units in Use Increase 27% in Single Record Year

ALL PREVIOUS RECORDS for oilburner production, shipments, sales and installations went into the discard in 1947 as the industry installed 820,923 new domestic oilburners and units out of total factory shipments of 992,654. In spite of some shortages, notably of tanks, and adverse oil supply publicity in the latter part of the year, the industry added 762,887 new customers after allowances for all replacements and losses, an increase of slightly more than 27% in domestic burners and units in use. There were 3,583,931 domestic jobs operating at the end of 1947.

Installations 820,923

Record high installations of 820,923 domestic burners and units during the year were 66.7% above the revised 1946 figure of 492,593. In addition to these burners installed in the United States, there were 72,139 domestic burners and units exported, 10,000 went into water heaters that are not included in the figure on installations, and dealers built up their stocks by 89,592 units during the year.

Commercial heating installations totalled 53,596, an increase of 32.3% over 1946, and the total in use rose to 370,566.

Automatic domestic heating installations during 1947 increased 1.17% to 7,136,509 from the 6,065,732 at the end of 1946. During the year oil again regained its position of more than half the automatic installations, after dropping to only 46.52% of the total at the end of the year before. The gas industry held the gains it made in 1946 fairly well, but stokers dropped to a new low, representing less than 17.6% of the total automatic heating jobs. The table shows the comparative percentages of the three principal fuels in use.

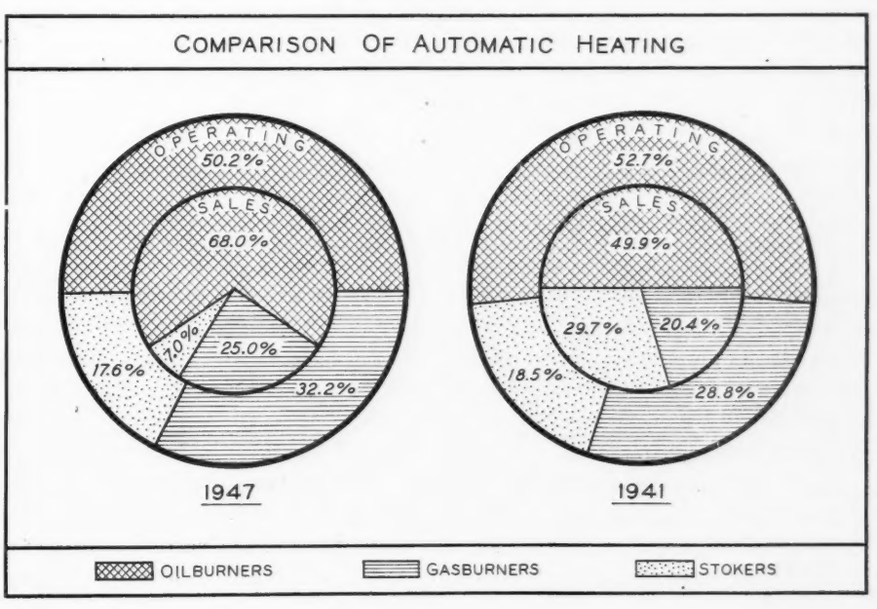
Operating 12/31/47		*1947 %*	*1946 %*	*1945 %*
3,583,931	Oilburners	50.24	46.52	50.09
2,296,163	Gasburners	32.17	33.41	28.44
1,256,415	Stokers	17.59	20.07	21.47

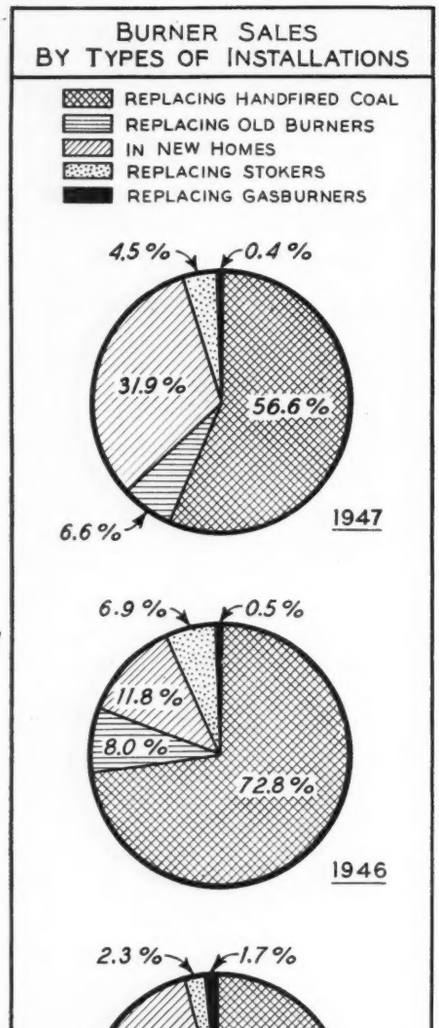
Oilfired central heating represented 67.98% of the total sales and installations of automatic heating equipment last year. Gasburners accounted for 25.01% and stokers 7.01%. In spite of the relatively small stoker sale during 1947, there were 36,920 former stoker users who turned to oil. Stoker users lost to gas and stokers sold for replacements brought the net gain down to only 39,275 for the year.

Domestic central heating for new homes accounted for 31.89% of the total burners and units sold. Of these 261,851 new home installations, 170,915 or more than 65% were warm air systems. There were 464,376 installations that replaced handfired coal and wood, representing 56.56% of the total installations for the year, against nearly 80% in 1946. Replacement of old oilburners took 54,591 of the installations, or 6.65%; stoker replacement represented 4.5% and replacement of gasburners (3,185) accounted for 0.4% of total oilburner installations. Campaigns to replace obsolete and inefficient equipment got under way too late to materially affect the oilburner replacement total. It has been shown in the past that oilburner replacements are the result of promotional effort on the part of dealers, and have little relation to the average age of burners operating.

Table 1 shows the domestic oilburner sales by years since 1930, retail value, factory value and the number of burners operating at the end of each year.

Retail value of domestic burners and units reached another new high last year at $386,532,800, an increase of 82.8% on a unit volume increase of 66.7%. Factory value of the oilburning equipment installed also set a new record at $144,868,100 for the year, up 83.4% over 1946. In addition, manufacturers





shipped 89,592 domestic burners to dealers which increased their stocks, and 72,139 more were exported. Assuming the same factory price, this would increase the factory value of equipment $30,367,500, bringing the total to $175,235,600.

Of the 820,923 total domestic oilfired installations last year, 619,222 were shipped as conversion burners, representing 75.4% of the total. This is down from the 83.0% of conversion burners in the 1946 total. There were 58,547 complete factory assembled boiler-burner units used, or 7.1% of the 1947 total against 9.2% in the year before, and furnace burner units shipped complete were 143,154 last year, or 17.5% against 7.8% in 1946. The following table shows the percentage of conversion burners and units used in the last three years and the prewar average.

Prewar %		*1947* %	*1946* %	*1945* %
80.5	Conversion burners	75.4	83.0	82.2
9.1	Boiler-Burn. Units	7.1	9.2	6.2
10.4	Furnace-Burn. Units	17.5	7.8	11.6

The ratio of burners and units is getting back on the long time trend toward reducing the conversion burner dominance for more oil-designed heating plants. The figures on oilfired units do not include the dealer-assembled units that were installed last year. Dealers used 60,487 conversion burners with new boilers which they bought and installed, and 182,316 conversion burners with new separate warm air furnaces. These field-assembled units required nearly half the conversion burners that were shipped during the year.

Domestic Oilburner Types

High pressure oilburners, as might be expected, dominated the field, but showed signs of losing some ground to the increasingly popular vaporizing type burner which has come up with the increase in direct-fired warm air systems. Low pressure and vertical rotary burners last year were about equal in volume.

High pressure burner volume was 567,340, or 69.11% of the total, against 75.8% the year before, and a prewar average of 71.7%. Low pressure burners totalled 60,092 last year, accounting for 7.32% of the total installed, compared with 11.5% in 1946, and 6.2% prewar. Vertical rotary burners and units came to 59,763, or 7.28% of the 1947 total, compared with 7.5% the year before and a prewar average of 11.0%.

Vaporizing burners and units—largely warm air units—totalled 133,728, or 16.29% of the 1947 installations. This compares with 5.2% of the 1946 total and 10.8% of the prewar volume of installations. For convenience the following table gives these figures for 1947, 1946 and prewar.

1947 No.	*1947* %		*1946* %	*Prewar* Avg. %
567,340	69.1	High Press.	75.8	71.7
60,092	7.3	Low Press.	11.5	6.2
59,763	7.3	Vert. Rot.	7.5	11.0
133,728	16.3	Vaporizing	5.2	10.8

These figures are for central heating equipment installed in the United States. Floor and wall furnaces are not included, and neither are the burners shipped from factories for export, or to dealers to increase their stocks. It is believed that burners in dealer stocks will be largely high pressure type, and exports high and low pressure burners.

Domestic Conversion Burners

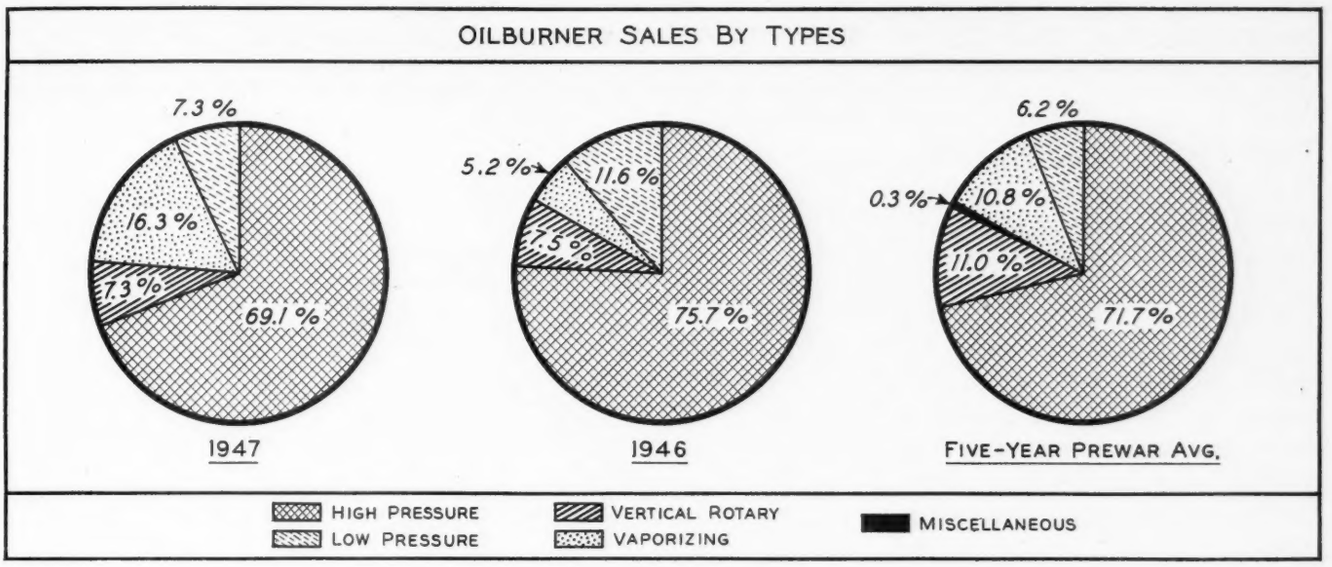
Conversion burners installed last year totalled 619,222, up 51.45% from the 408,861 conversion burners used in 1946. Both these figures include the burners used in dealer-assembled boiler and furnace units, since the burners left the factory as conversion burners. In Table 2 are shown annual conversion

TABLE 1

TOTAL DOMESTIC BURNERS AND UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	.....	.....	1930	648,500
104,000	.....	.....	1931	747,300
89,200	.....	.....	1932	831,120
88,600	.....	.....	1933	914,280
108,290	.....	.....	1934	1,112,870
150,510	$55,342,500	.....	1935	1,152,125
220,075	74,054,700	.....	1936	1,340,675
210,740	69,265,100	$22,238,200	1937	1,530,545
179,360	54,583,900	18,292,900	1938	1,667,745
236,140	66,520,400	23,352,200	1939	1,862,330
302,210	89,548,800	32,273,600	1940	2,135,125
333,250	113,546,400	41,931,800	1941	2,402,060
99,514	29,871,600	14,067,900	1942	2,386,290
33,445	5,283,300	5,431,000	1943	2,375,455
49,915	17,988,300	7,652,000	1944	2,392,265
145,596	49,245,200	17,845,400	1945	2,517,055*
492,593	211,448,000	79,007,100	1946*	2,821,044
820,923	386,532,800	144,868,100	1947	3,583,931

*Revised



burner sales, retail value, wholesale value and conversion burners operating at the end of each year since 1930.

Conversion burners operating at the end of 1947 totalled 2,968,825, an increase of 24.0% from the end of 1946.

The retail value of conversion burners reached a new high of $242,735,000, an increase of 60.5% over 1946. This represents 62.8% of the total retail value of all equipment sales. The factory value of installed burners also reached a new high at $77,402,800, up 59.2% from 1946, and representing 53.4% of the total factory value of all equipment.

Average retail price of conversion burners (Table 5) increased 6% during the year to $392, though the average minimum price for conversion jobs was up more than 20% to $353. This spread of $39 between the average and the minimum reflects the start of a return to price consciousness on the part of dealers. During past years the spread had narrowed as dealers fought for business. In 1946 the spread jumped to $76 from $21 in the year before, as dealers concentrated on higher priced lines and neglected the "leaders." Now the trend seems to be toward narrowing the spread again.

Prices for complete installation of a conversion burner with a 275-gal. tank in the basement ranged from $360 in the South to $396 in the Middle Atlantic States. New England was next to the highest with a price of $393; Middle West $386, and Far West $382.

Replacements of old oilburners last year sold for an average of $291, or $101 off the complete installation price. Replacement price ranged from $261 in the South and $272 in the Middle Atlantic area to $307 in the Middle West. New England got an average of $307 and the West got $268 for a replacement.

Replacement price last year was 74.2% of the completely installed price, compared with 81.8% in 1946 when burners were harder to get, 74.7% in 1945 and 75.4% in 1944.

The average factory price of a conversion burner in 1947 was up 5% to $125, though the average cost of a minimum price burner to a dealer was up 19.9% to 107.

The average retail prices for low pressure and vertical rotary burners actually were slightly lower than in 1946, but all other prices were higher. Most conversion burner installations were of the high pressure type, and there were relatively few of the vaporizing type used as conversion burners. The following table shows the average retail and wholesale prices of conversion burners by types.

RETAIL			WHOLESALE	
1947	*1946*		*1947*	*1946*
$380	$367	High Press.	$117	$113
397	398	Low Press.	150	135
392	395	Vert. Rotary	146	144
351	319	Vaporizing	108	90

Though the average factory price of a conversion burner was $125, the prices varied by areas. The Middle West average cost of a conversion burner to a dealer was $130, and in New England it was

TABLE 2
DOMESTIC CONVERSION OILBURNERS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	$79,400,000	$24,648,000	1930	648,500
104,000	50,310,000	16,640,000	1931	747,300
86,200	36,911,000	12,068,000	1932	827,320
80,800	31,263,000	10,423,000	1933	902,680
98,990	33,116,000	11,681,000	1934	991,980
136,825	43,373,500	13,408,900	1935	1,115,125
197,430	59,229,000	18,558,400	1936	1,281,305
184,920	54,181,600	15,903,100	1937	1,446,295
153,850	40,462,600	12,154,200	1938	1,559,675
200,020	48,004,800	15,601,600	1939	1,719,940
238,845	55,645,900	18,152,200	1940	1,933,605
237,965	59,490,200	19,275,200	1941	2,113,160
71,658	16,552,700	6,090,900	1942	2,073,260
21,363	1,885,800	1,837,200	1943	2,060,465
37,885	10,607,800	4,184,600	1944	2,072,445
119,680	34,292,200	11,249,900	1945	2,173,910*
408,861	151,258,100	48,625,800	1946*	2,397,554
619,222	242,735,000	77,402,800	1947	2,968,825

*Revised

$127. Middle Atlantic paid $123, the South $115 and the West paid only $112 for the average conversion oilburner.

Complete Boiler-Burner Units

Complete boiler-burner units shipped from manufacturers and installed in the country totalled 58,547 last year, accounting for 7.1% of all domestic burners. This compares with 9.2% in 1946, and a prewar average of 9.1%. This decline in the proportion of boiler units reflects the increasing popularity of warm air in new construction. Any notable increase in hot water radiant heating in the future could increase the ratio of boiler units to near or above their former percentage of the annual domestic oilburner installations. Boiler unit sales and installations for the year were 29.7% above 1946.

Complete boiler units operating at the end of the year stood at 274,751, up 25.4% from the end of 1946, but only 7.6% of the total burners and units operating.

Table 3 shows the annual sales and units operating since 1932, and retail and factory value for the last ten years. Retail value of installed boiler units last year reached a new high of $48,886,700, an increase of 40.6% over 1946, and 12.6% of the retail value of all domestic burners and units in 1947. Factory value also hit a new high at $21,369,700 for complete boiler units last year. This is an increase of 18.1% over 1946, and represents 14.8% of the total factory value of all burners and units last year.

Of the integral boiler units used in 1947, 36,650, or 62.2% were steel and 21,897 were cast iron.

Retail prices for boiler units installed last year increased 8.4% over 1946 to $835. Average minimum installed prices, however, increased 17.3% to $691. Both the average and the minimum prices were the highest since 1935. Details on retail and wholesale prices are given for recent years in Table 6.

Factory prices for boiler units reached a new high last year with an average of $365, up 4% from 1946. The average minimum price was up 16.1% to $310.

Integral boiler units represented only 49.2% of the total oilfired boilers used during the year. There were 60,487 new boilers used by dealers to assemble their own units. These dealer assembled boiler units accounted for 7.4% of the total domestic oilburner and unit volume last year, compared to 7.2% in 1946, 15.1% in 1945 and 29.8% in 1944. The following table shows a breakdown of dealer-assembled boiler units by type of boiler in recent years.

Cast Iron		*Steel*	*Total*
7,039	1942	1,651	8,690
2,240	1943	595	2,835
13,377	1944	1,491	14,868
18,734	1945	3,306	22,040
29,658	1946	5,537	35,195
51,382	1947	9,105	60,487

Cast iron boilers represented 84.9% of the dealer assembled units in 1947, and 84.3% in 1946. Cast iron was 85% of the dealer assembled total in 1945 and 90% in 1944.

TABLE 3
INTEGRAL BOILER-BURNER UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,000	.....	.....	1932	3,800
7,800	.....	.....	1933	11,600
9,300	.....	.....	1934	20,890
10,510	$9,511,600	.....	1935	31,400
15,025	9,781,300	.....	1936	46,250
14,430	8,557,000	$3,795,100	1937	60,240
14,220	7,877,900	3,711,400	1938	73,930
19,220	9,744,500	4,286,100	1939	92,540
26,955	13,322,700	5,005,300	1940	118,560
39,990	21,874,500	9,717,600	1941	155,720
9,313	5,289,800	2,877,700	1942	163,040
6,637	1,705,600	2,090,600	1943	164,240
6,440	3,909,100	2,002,800	1944	167,040
9,027	5,984,900	2,491,500	1945	175,165
45,130	34,765,900	18,088,100	1946*	219,131
58,547	48,886,700	21,369,700	1947	274,751

*Revised

Table 5. Conversion Burner Price Trends

RETAIL Aver. age	RETAIL % change prev. yr.	RETAIL Aver. Min.	RETAIL % change prev. yr.		FACTORY Aver. age	FACTORY % change prev. yr.	FACTORY Aver. Min.	FACTORY % change prev. yr.
$692	..	$554	..	1929	$240	..	..	..
629	— 9.1	516	— 6.8	1930	195	—18.7	..	..
495	—21.3	413	—19.9	1931	160	—18.0	..	..
438	—11.5	371	—10.1	1932	140	—12.5	..	..
395	— 9.8	341	— 8.1	1933	129	— 7.8	$109	..
341	—13.6	310	— 9.0	1934	118	— 8.5	99	— 9.1
317	— 7.0	275	—11.2	1935	98	—16.9	88	—11.1
300	— 5.3	266	— 3.2	1936	94	— 4.1	85	— 3.4
293	— 2.3	255	— 2.6	1937	86	— 8.5	82	— 3.5
263	—10.2	236	— 7.4	1938	79	— 8.1	76	— 7.3
240	— 8.7	218	— 7.6	1939	78	— 1.3	69	— 9.2
233	— 2.9	210	— 3.7	1940	76	— 2.6	63	— 8.7
250	+ 7.2	226	+ 7.6	1941	81	+ 6.9	65	+ 3.2
267	+ 6.8	245	+ 8.4	1942	85	+ 4.9	73	+12.3
276	+ 3.3	247	+ 0.9	1943	86	+ 1.2	76	+ 4.1
280	+ 1.4	258	+ 4.7	1944	98	+13.9	78	+ 2.6
313	+11.8	292	+13.2	1945	94	— 4.1	84	+ 7.7
370	+18.2	294	+ 0.7	1946	119	+26.6	90	+ 7.1
392	+ 6.0	353	+20.1	1947	125	+ 5.0	107	+18.9

Table 6. Prices of Factory-Assembled Boiler-Burner Units

RETAIL Aver-age	RETAIL % change prev. yr.		RETAIL Aver. Min.	RETAIL % change prev. yr.
$905	..	1935	$723	..
651	—28.0	1936	566	—21.7
593	— 8.9	1937	516	— 8.8
554	— 6.5	1938	482	— 6.6
507	— 8.3	1939	441	— 8.5
495	— 2.4	1940	365	—17.2
547	+11.5	1941	378	+ 3.6
568	+ 3.8	1942	473	+25.1
533	— 6.2	1943	361	—23.7
607	+13.9	1944	450	+24.6
663	+ 9.2	1945	539	+19.8
770	+16.1	1946	589	+ 9.3
835	+ 8.4	1947	691	+17.3
FACTORY				
$263	..	1937	$246	..
261	— 0.7	1938	244	— 0.8
223	—14.5	1939	208	—14.7
215	— 3.6	1940	183	—12.0
243	+13.0	1941	201	+ 9.9
309	+27.1	1942	229	+13.4
315	+ 2.0	1943	231	+ 1.0
311	— 1.3	1944	216	— 6.5
276	—11.2	1945	233	+ 7.9
351	+27.2	1946	267	+14.6
365	+ 4.0	1947	310	+16.1

Total Boiler Sales

Shipments of boilers last year for all fuels totalled 256,663, up 30.6% from the 196,487 boilers shipped in 1946. Cast iron boilers increased 27% over 1946 to 205,330 units, and steel boilers were up 47.4% to 51,333. Cast iron boilers were 80.0% of all boilers last year and 82.3% in 1946.

Total oilfired boilers installed in 1947 reached 119,034, up 48.2% from the 80,325 oilfired total in 1946, and represented 46.4% of total boiler sales last year, against 40.8% of all boiler sales the year before. Cast iron boilers for oilfiring were 61.5% of the total in 1947, and 57.9% of oilfired boilers in 1946.

Though all steel boilers increased 47.4% during the year, the increase in oilfired steel units was 33.7% to 45,755, an all time high in oilfired steel boiler sales since figures have been compiled. Detail on all boilers is given in Table 7.

The average size of residential steel boilers for oilfiring decreased more than 11% in 1947 compared with 1946. The 740 square feet EDR of the average oilfired steel boiler last year compares with 833 sq. ft. in the year before, and brings the average size back more nearly to the average of prewar days. Average steel boiler size for oilfiring is shown in the accompanying chart for the last twelve years.

Table 7. Heating Boiler Sales

	Total Output	No. for oil	% for oil
	CAST IRON		
1935	160,105	29,310	18.3
1936	186,560	41,922	22.5
1937	169,707	58,462	34.2
1938	135,282	54,139	40.0
1939	146 919	61,070	41.6
1940	168.839	77,764	46.1
1941	178 076	80,176	45.0
1942	111,875	10,765	9.6
1943	81,500	8,852	10.9
1944	75,760	19,140	25.3
1945	66,740	20,088	30.1
1946	161,667	46,548	28.8
1947	205,330	73,279	35.7
	STEEL		
1935	14,415	14,181	98.1
1936	19,242	18,622	96.8
1937	16.569	15,321	92.7
1938	19.098	17,218	90.3
1939	23,658	21,857	92.4
1940	24,580	23,206	94.5
1941	25,666	24,173	94.2
1942	13,000	7,238	55.7
1943	3,550	1,230	34.7
1944	3,310	2,168	65.5
1945	16,008	10,979	68.6
1946	34,820	33,777	97.0
1947	51,333	45,755	89.1

TABLE 4

INTEGRAL FURNACE-BURNER UNITS

Sales	Retail Value	Factory Value	Year	No. in Use (End of Year)
3,175	$2,457,400	.....	1935	5,600
7,620	5,044,400	.....	1936	13,120
11,390	6,526,500	$2,540,000	1937	24,010
11,290	6,243,400	2,427,300	1938	34,140
16,900	8,771,100	3,464,500	1939	49,850
36,410	19,115,300	7,646,100	1940	82,960
55,295	32,181,700	12,939,000	1941	133,180
18,543	8,029,100	5,099,300	1942	149,990
5,445	1,691,900	1,503,200	1943	150,750
5,590	3,471,400	1,464,600	1944	152,780
16,889	8,968,100	4,104,000	1945	167,980
38,602	25,429,000	12,293,200	1946*	204,359
143,154	94,911,100	46,095,600	1947	340,355

*Revised

Complete Furnace-Burner Units

Complete furnace-burner units shipped as units from the factory reached an all time record total of 143,154 units last year, up 270.8% from the previous record of 38,602 in 1946. Oilfired warm air units shipped complete represented 17.1% of all domestic burners and units last year, compared to 7.8% in 1946, 11.6% in 1945 and 11.2% in 1944.

Warm air units operating at the end of the year were up 66.5% to 340,355 from the 204,359 in use at the end of 1946, and represented 9.2% of all domestic burners and units operating. Figures on annual sales, retail and wholesale values and the number of integral warm air units operating at the end of each year since 1935 are shown in Table 4.

Retail value of complete warm air units increased 273.2% over 1946 to a new high of $94,911,100, representing 24.6% of the retail value of all domestic burners and units installed during the year. Factory value also hit a new high of $46,095,600, up 275% from the year before, and accounting for 31.8% of the total factory value of all domestic burners and units.

The average retail price of forced warm air units increased 0.6% during the year to a new high since 1935 of $663. Average minimum price, however, increased 15.9% to $610 during the year, also the highest for low price equipment since 1935.

Average factory price was up 1.3% to $322 in 1947 from the $318 average of 1946. Again, average price at the factory for minimum price furnace units increased much faster during the year, reaching $297, up 12.1% during the year. These factory prices are the highest since records were kept. Details for the last eleven years are given in Table 8.

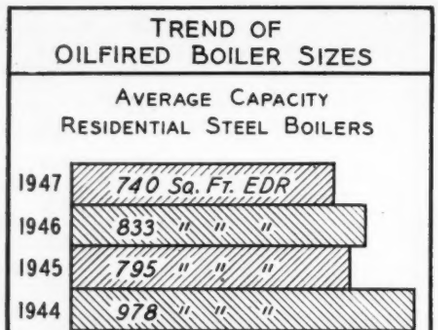
Besides the furnace units that were

Table 8. Price Trends of Factory-Assembled Forced-Air Units

Average	% change prev. yr.		Aver. Min.	% change prev. yr.
		RETAIL		
$774	..	1935	$642	..
662	—14.4	1936	576	—10.2
573	—13.4	1937	499	—13.3
553	— 3.5	1938	481	— 3.4
519	— 6.2	1939	402	—16.4
525	+ 1.2	1940	360	—10.4
582	+10.9	1941	402	+11.7
611	+ 4.9	1942	413	+ 2.7
613	+ 0.3	1943	418	+ 1.2
621	+ 1.3	1944	434	+ 3.8
531	—14.5	1945	479	+10.4
659	+24.1	1946	526	+ 9.8
663	+ 0.6	1947	610	+15.9
		FACTORY		
$223	..	1937	$210	..
215	— 3.6	1938	204	— 2.8
205	— 4.7	1939	198	— 2.9
210	+ 2.4	1940	196	— 2.0
234	+11.4	1941	201	+ 2.5
275	+17.5	1942	236	+17.4
276	+ 0.4	1943	241	+ 2.1
262	— 5.1	1944	217	— 9.9
243	— 7.3	1945	239	+10.1
318	+30.9	1946	265	+10.9
322	+ 1.3	1947	297	+12.1

Table 9. Warm Air Furnace Shipments

1947 Cast Iron	1947 Steel		1946 Cast Iron	1946 Steel
		FORCED AIR		
2,455	28,709	Coal	2,632	15,167
43,176	121,076	Gas	31,511	123,553
1,403	297,790	Oil	4,155	66,832
47,034	447,575	Total	38,298	205,552
		GRAVITY		
155.083	188,993	Coal	152,848	232,423
4,503	48,831	Gas	6,233	53,327
243	26,034	Oil	416	3,463
159,829	263,858	Total	159,497	289,213



shipped complete with burner from the factory, there were 182,316 furnace units assembled by dealers in the field, using a new oil-designed furnace and a conversion burner. This compares with 36,264 dealer-assembled warm air units in 1946, and 3,898 in 1945. Dealer assembled warm air units were 99.5% steel. The table below presents a breakdown of the warm air units installed in 1947 by type and material of construction.

FACTORY ASSEMBLED			DEALER ASSEMBLED	
Cast Iron	*Steel*		*Cast Iron*	*Steel*
637	133,849	Forced	766	163,941
91	8,577	Gravity	152	17,457

Table 9 shows a breakdown of 918,296 warm air furnaces installed in 1947 by type and fuel for which they were designed, and also comparable figures for 1946. The 325,470 warm air furnaces designed for oilfiring were 35.4% of the total, compared with 9.9% which the 65,288 oilfired warm air furnaces accounted for in 1946, and 5.7% oilfired in 1945.

Commercial Oilburner Installations

Comercial and industrial oilburner installations last year reached 53,596, an increase of 32.3% from the 1946 level. Heavy oil burners operating for commercial heating at the end of the year stood at 370,566, up 13.9% from the year before.

Of the total, 14,594 were low pressure burners, or 27.2%. High pressure accounted for 22,902 or 42.7%, and rotary equipment was 16,100, or 30.0%. The summary of sales and heavy oilburners operating for heating since 1935 is given in Table 11.

Table 10. Domestic Stokers

Sales	*% change*		*No. in use*	*% change*
11,361	..	1931	20,811	..
11,144	— 1.9	1932	31,955	+53.5
15,618	+ 32.0	1933	47,573	+48.8
25,510	+ 73.3	1934	73,083	+53.6
45,194	+ 77.1	1935	118,277	+61.8
84,421	+ 86.8	1936	202,698	+71.3
103,378	+ 22.4	1937	306,076	+51.0
98,907	— 4.3	1938	403,005	+31.6
106,208	+ 7.4	1939	507,412	+25.9
159,533	+ 48.6	1940	658,970	+29.7
198,243	+ 24.3	1941	843,313	+28.0
96,420	— 51.3	1942	938,315	+11.3
19,040	— 80.2	1943	955,450	+ 1.8
32,245	+ 69.3	1944	984,740	+30.5
119,520	+270.7	1945	1,082,700	+ 9.9
240,652	+101.3	1946	1,217,140	+12.4
84,661	— 64.8	1947	1,256,415	+ 3.2

Competitive Equipment

Domestic and small commercial stoker sales (Classes 1 and 2) totalled only 84,661, representing a decrease of 64.8% from the 1946 record high of 240,672. Small stokers operating at the end of the year totalled 1,256,415, an increase of only 3.2% for the year. Oilburners replaced 36,920 of the small stokers and another 8,466 were lost to gas or replaced by other stokers, leaving a net gain of only 39,275 stokers operating at the end of the year.

Class 1 stokers, with a capacity of 60 pounds of coal an hour or less, totalled 78,447, or 92.7% of the whole. Of these Class 1 stokers, bituminous units accounted for 74,502,or 95%. Only 3,945 small anthracite stokers were installed in 1947.

Class 2 units, with a capacity between 60 and 100 pounds of coal an hour, numbered 6,214 or 7.3%, and again stokers for bituminous coal accounted for 92.4% of the class. Stoker sales and number of units operating at the end of each year are shown in Table 10.

Table 11. Commercial Oilheating

Sales		*No. Operating (End of year)*
14,990	1935	176,240
18,435	1936	192,830
19,380	1937	210,275
13,955	1938	222,880
16,445	1939	237,680
20,710	1940	256,320
34,750	1941	287,595
55,360	1942	293,120
44,470	1943	285,045
30,705	1944	286,680
30,515	1945	288,812
40,498	1946	325,310
53,596	1947	370,566

Gas installations for residential heating in 1947 are estimated by the Gas Appliance Manufacturers Association at 302,000, off 54.4% from the record high of 662,500 gasburners and units installed in 1946. This brings total residential gasburners operating in central heating plants to 2,296,163 at the end of 1947, up 13.2% from a year ago.

On the basis of later figures, the Gas Appliance Manufacturers Association revised their estimates for 1946 as shown in Table 12. Figures for 1947 are preliminary estimates from GAMA.

Conversion gasburners at 90,000 for last year represent 29.8% of the year's total, contrasted with 60.4% in 1946. Boiler units at 44,000 are 14.6% of the 1947 total, against 4.9% in the year before, and furnace burner gas units last year represented 55.6%, contrasted with 34.7% in 1946.

Other Equipment Sales

In addition to domestic oilburners and units, oilheating dealers sold 24,150 of the 84,661 domestic and small commercial stokers last year. This is 28.5% of all stoker sales, contrasted with 4.15% of the stokers sold by oilburner dealers in 1946.

Oilheating dealers also sold 34,910 gasburners, or 11.6% in 1947, against

Table 12. Domestic Gasburners

Annual Sales					
Conversion	*Boiler Units*	*Furnace Units*	*Total*		*No. in Use (End of Year)*
21,687	10,201	56,666	88,554	1940	1,187,486
36,335	15,007	85,043	136,385	1941	1,310,222
6,087	10,966	29,412	46,465	1942	1,352,040
800	3,485	8,970	13,255	1943	1,363,970
3,180	5,217	12,113	20,510	1944	1,382,430
14,183	14,959	27,676	56,818	1945	1,433,570
400,000	32,500	230,000	662,500	1946*	2,027,548
90,000	44,000	168,000	302,000	1947	2,296,163

*Revised

4.9% of all gasburners the year before.

Of the oilfired space heater total of 1,909,460, oilheating dealers sold 75,631, or 4%. Of the total oilfired space heaters, only 50,060 were fired with sleeve type burners, or 2.7%. The balance were fired with pot type equipment.

Oilheating dealers sold 60,093 oilfired water heaters out of a total 224,712 storage type water heaters designed for oil. This is 26.74% of the 1947 total sold by dealers in central heating equipment. Of the water heater units dealers sold, 41,765, or 69.5% were fired with vaporizing burners and 18,328 or 30.5% were fired with gun or rotary burners.

Besides the 325,470 oilfired warm air furnaces dealers used last year, they also sold 79,842 separate furnaces for other fuels, or 8.7% of all furnace sales. Combining oilfired and separate furnaces sold by oilheating dealers, they accounted for 405,312 of the 918,296 furnaces used last year, or more than 44% of the total. Of these separate furnaces for other fuels, 3,888 or 4.87% were cast iron forced air, 10,627 or 13.31% were cast iron gravity, 41,598 or 52.1% were steel forced air, and 23,729, or 29.72% were steel gravity.

In addition to the oilfired boilers and units dealers sold, there were 36,076 separate boilers for other fuels used by this group last year, accounting for 14.0% of the 256,663 total boilers shipped. Combining the oilfired boilers with those for other fuels which dealers sold, the total is 155,110, or 60.5% of all boilers used in 1947. The 36,076 separate boilers were broken down 21,990 or 60.9% cast iron, and 14,086 steel.

Summary

Central heating distillate burners and units were produced in a volume just under a million units last year, more than 82% of which were installed in the United States. The retail value of this equipment was $386,532,800. Service rendered by dealers totalled $47,656,900, and the oil delivered to all distillate central heating installations was valued at $664,376,800, for a total of $1,098,566,500 in direct business in the industry.

The value of other equipment sold by oilheating dealers last year—space heaters, water heaters, stokers, gasburners, and separate boilers and furnaces—added another $71,535,500, to make the total industry dollar volume $1,170,100,000.

Public acceptance of oilheating is at an all time high, though there is no way at this time to gauge the effect of the mounting publicity being given to oil shortage, or the possible effect of inconvenience that may be suffered this winter due to cold homes. There is another dampening effect on public acceptance in the opportunistic pricing of oil in areas where there is scarcity. These combined effects could seriously hamper the sale of oilheating equipment in the years immediately ahead.

Another very real problem is found in the oil supply picture for the immediate future. Though oil producing and refining companies are hurrying expansion to the limit of their ability to get equipment, it is doubtful that they will welcome an annual increase of close to 50 million barrels in distillate heating demand until they are fully prepared to handle it.

It is probable that more effort will be put on domestic and commercial oilburner replacements and renovation during the year ahead. A few manufacturers already are testing or preparing campaigns aimed at increasing operating efficiency of their installed equipment, and it is probable that this movement will expand.

Public acceptance of oilheating, as shown in the installation of 820,923 domestic burners and units last year, proves beyond any doubt that oilheating has arrived. The burden now is on the industry to prove that it can and will justify the public's faith in the equipment we have made and installed.

Heavy Oil Shortage Curbs Phila. Gas Use

LACK OF HEAVY OIL threatens a shut down of Philadelphia industrial plants because of inability to supply them with gas, according to officials of the Philadelphia Gas Works Company. The company consumes 14 million gallons of heavy oil a month, and is able to buy only 9 million gallons.

The company supplies 4,000 industrial plants, 20,000 commercial customers and 480,000 domestic users. Lack of oil is threatening the industrial consumers.

Strikes Threaten Supply In Ice-Bound New York

STRIKES THREATENED fueloil deliveries in the New York City area early in January following a record 25.8 inch snow fall the day after Christmas, which had so slowed retail deliveries that many homes and apartment houses were out of fuel. The record snow fall was followed a week later by one of the area's most severe ice storms, tearing down power lines and littering streets with fallen trees and ice.

At midnight, December 31, the contract with union drivers expired in Westchester County, just north of the city, and at midnight January 3, the contract with barge and tanker crews in the harbor expired. The walkout of barge crews was postponed for a week after city and state mediators had met continuously with union and company officials for days prior to the deadline. About a thousand crews were affected in the harbor, through which fuel for the North Jersey and South New York area is handled.

Fuel deliveries in the metropolitan area ten days after the record snow fall were estimated at only 60% of normal.

About 500 drivers in Westchester County delivering about 75% of the fueloil in the county, were involved in a demand for a closed shop, contrary to the Taft-Hartley Act, a wage increase of 25 cents an hour, and a contribution of 3% of wages by the employer to a sickness benefit fund. Negotiations bogged down on the closed shop issue, though drivers continued to work day to day after expiration of their contract.

Charles H. Sells, New York State Fueloil Coordinator, announced that the industry had agreed to a state-wide program under which distribution to consumers would be cut 15% immediately. New York City, meanwhile, had established a commission to investigate reported black market operations in fueloil, and Mayor O'Dwyer announced that "at the first sign of a black market in fueloil the city will not hesitate to move in and distribute fueloil itself."

Banner Year for Dealers

Materials Available, Competitive Fuels Retarded, Profits Good

FORECASTERS within the oilburner and oil industries lost a lot of their reputations during 1947. None of them expected the number of oilburner installations to come anywhere near the totals that finally were chalked up. If it hadn't been for the retarding effect of oil shortage publicity in the closing months of the year, new installations would apparently have exceeded a million.

A number of dealers who were asked to canvass their salesmen on how many of their best prospects put off buying because of oil uncertainty, reported that if everything had been serene they believe sales in the second half of the year would have been double what they were.

Of course, oilheating had some particular advantages during the year, advantages of a temporary nature. Fully two-thirds of gas utilities in the northern half of the country refused to connect additional heating load, and this threw quite a bit of new home business to oil. Builders had previously preferred gas because of its low equipment installation costs.

The gas industry, unable to get line pipe or other steel products in sufficient quantity, will probably continue to be stymied in many markets for at least another year or two. As a result, oilheating will continue to be in strong demand for homes, since few builders are willing to take a chance on non-automatic fuels in their better housing.

Oilburner dealers were also blessed in 1947 through having relatively weak stoker competition. As shown in the preceding article, the total number of domestic stokers installed was very small. There is considerable question as to whether stokers will ever come back in any volume, since the average home owner does not consider them to be genuinely automatic.

Thus, oilheating seems to have worked itself into a position of high preference, for the near future at least. Some of its blessings may be dulled a bit on the edges by the amount of unfavorable publicity on this winter's fuel stringency. Most observers, however, do not believe that this will have a very serious effect on the volume of 1948 oilheating sales, after the winter months are past.

Backlog of Demand

Only about two-fifths of American homes with central heating plants have automatic heating. With a high level of income and general prosperity throughout the country, and with every probability that this will continue for at least another couple of years, the potential market for oilheating among the three-fifths of homes now using handfired coal is so great that it will be very difficult to seriously retard its realization.

Dealers whose principal dollar volume was in oilburner sales continued to effectively dominate the market, as shown by the accompanying chart and table. These dealers might be considered the original oilburner dealers, and they sold during the year 45% of all oilburners. This is a rise from 41% of the total that this group accounted for in 1946.

Fueloil distributors were in second position on oilburner sales with 30% of the total in 1947, which was identical with their relative share in the previous year.

Coal dealers were again the third largest sellers of oilburners. General heating contractors, or firms whose largest dollar volume was in general heating, sheet metal or furnace work, accounted for only 4% of oilburner sales, in the system of rating that was used, classifying companies by their largest product doller volume. Some of these companies, however, are in the "other business" category, because their largest dollar volume happened to be in plumbing.

The "other business" classification included several types of firms, principally those whose largest dollar volume was in home appliances, hardware, gasoline, or as previously mentioned, plumbing. In general there was relatively little shift during the year in the types of companies that dominate oilburner sales, other than the one first mentioned wherein the original oilburner dealers seemed to move ahead faster in a year of exceptional growth.

The wedding of interests between burners and fueloil continued steady during 1947. As shown in the chart, 63% of all oilburner sales brought to the seller a new fueloil contract. This compares with 62% in 1946. Fueloil is an important segment of the oilburner dealers' business and vice versa, because it makes possible a continuing customer relationship with profit possibilities far beyond those of the original sale. A dealer that has been in business a few years, and who has managed to get the oil contract with most of his new burner installations, usually finds that his dollar volume from oil is running around five times the dollar volume from his equipment sales.

Thus, oilheating becomes a very stable and deeprooted business, somewhat like a public utility.

Fewer Sell Stokers, Gas

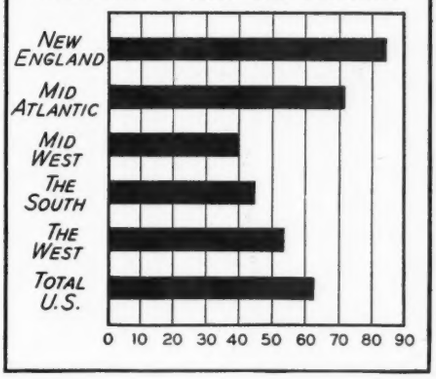
A little more than a fourth of oilheating dealers in 1947 sold competitive fuel equipment . . . stokers or gasburners. This was substantially less than the number in 1946. The comparison was 73% exclusively oilheating dealers in 1947 and 62% exclusive in 1946. Only 17% sold stokers in the year just closed, compared with 22% the year before, and 14% sold gasburners in 1947, while 24% had sold them in 1946. The chart shows this story in detail by sections of the country and it also shows the numbers of stokers and gasburners sold by oilheating dealers.

Not included in those figures are gas water heaters sold in the oilheating industry, approximately 24,000. In the Midwest particularly and in other areas where warm-air heating predominates, separate water heaters are almost universally called for and the dealers supplied nearly half as many for gasfiring as they did oilfired water heaters, the later figure being approximately 54,500.

Oilburner prices in 1947 were slightly more favorable in relation to cost than

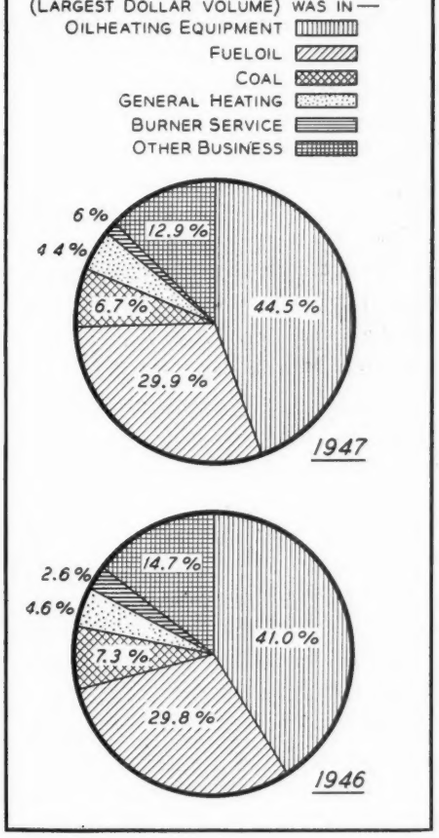
BURNER — FUELOIL TIE-UP

PERCENT OF 1947 BURNER INSTALLATIONS THAT BROUGHT THE INSTALLER A NEW OIL CONTRACT



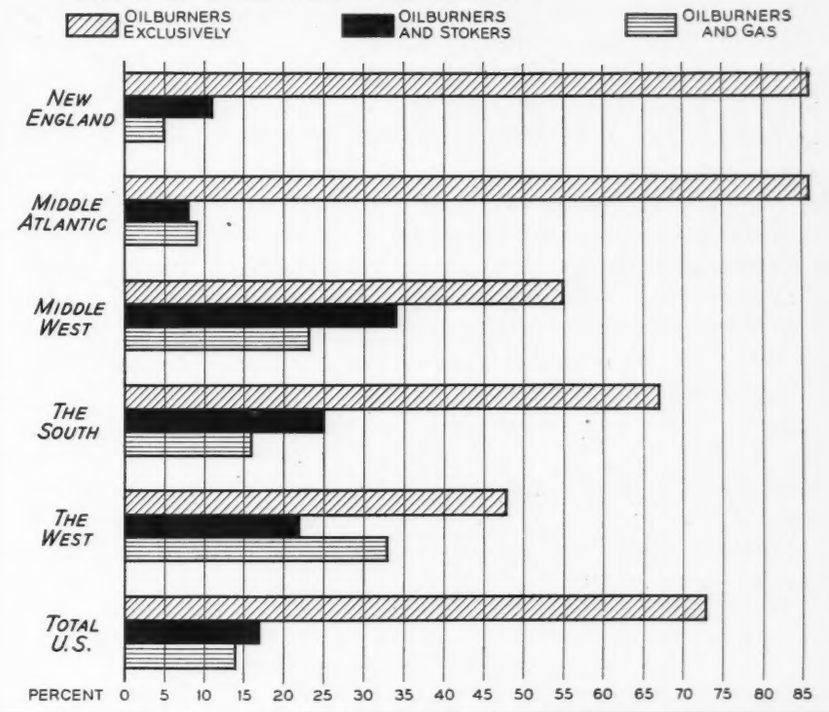
BURNER SALES LEADERS

PERCENT OF TOTAL BURNER SALES MADE BY DEALERS WHOSE PRINCIPAL BUSINESS (LARGEST DOLLAR VOLUME) WAS IN —



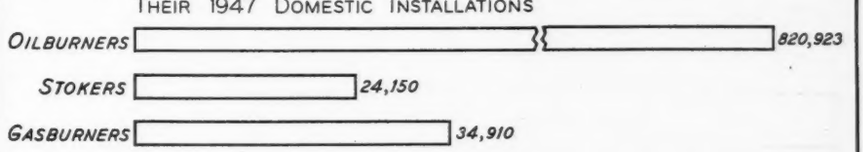
OILHEATING DEALERS SELLING COMPETITIVE EQUIPMENT

PERCENT OF DEALERS WHO SOLD IN 1947



COMPETITIVE EQUIPMENT INSTALLED BY OILHEATING DEALERS

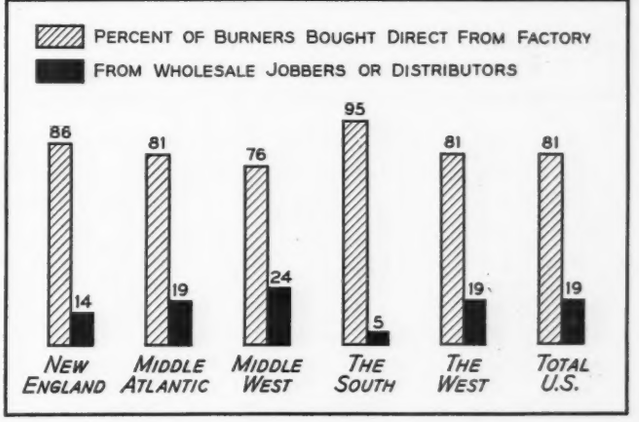
THEIR 1947 DOMESTIC INSTALLATIONS



Where Dealers Buy Their Burners

	—PERCENT OF DEALERS—		—PERCENT OF ALL BURNERS—	
	From Factory	*From Wholesaler*	*From Factory*	*From Wholesaler*
New England	60%	40%	86%	14%
Mid-Atlantic	60	40	81	19
Midwest	54	46	76	14
South	56	44	95	5
West	59	41	81	19
U. S. Total	58	42	81	19

WHERE DEALERS BUY THEIR OILBURNERS



Importance of Various Types of Dealers to Burner Sales

Dealers whose Largest Dollar Volume Was In	—SOLD THIS PER CENT OF TOTAL OILBURNERS— *New Eng.*	*Mid. Atl.*	*Mid-West*	*The South*	*The West*	*1947 U.S. Aver.*	*1946 U.S. Aver.*
Oilburners	9	39	71	58	66	45	41
Fueloil	67	33	4	20	13	30	30
Coal	18	5	5	..	..	7	7
General Heating	3	3	5	18	9	4	5
Burner Service	..	..	2	1	..	1	2
Other Business	3	20	13	3	12	13	15

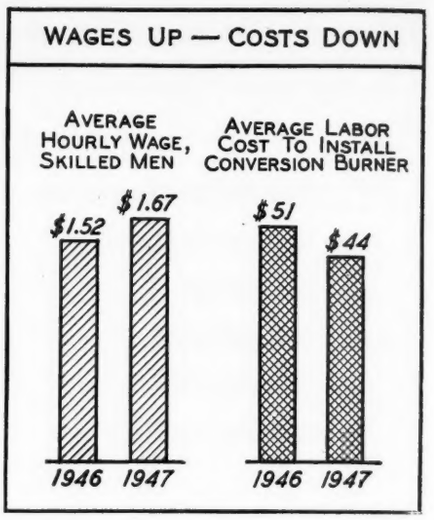
they had been the year before. With an average retail price for conversion burner installations of $392, the gross profit after all primary costs was $117 or 30% of the sale price. The year before, this gross spread had been only 27% of the sale price. Either figure is obviously too low, or would be if the dealer had to depend for profits on conversion burners only. The real profits came through sales of extras and through fueloil sales, for those companies that were also in the oil business.

In studying the table it is interesting to notice the similarity between the average selling price in all sections of the country . . . the lowest being $360 in the Southern states and the highest $396, or just 10% more in the Middle Atlantic states.

Installation labor at $44 for a conversion burner was sharply down from the average of $51 the year before, even though average wage rates had gone up during the period. This reflects more than anything else the availability of materials during 1947, whereby installations once started could be completed with dispatch, instead of having to cut and try with a lot of substitute materials as had been necessary in the past.

On new home work the prices charged by dealers were only moderately below their charges on individual sales. The table shows, for example, that the average conversion burner installed in new homes brought $352, against the average for all conversion burner installations of $392, or 10% lower.

The prices shown in the new home table for the various types of oilheating installations are not representative of all sizes of homes—rather they apply to the typical five-room G. I. house of the builder developments. Notice that the complete systems sold in 1947 for considerably less than they had brought in 1946.



This reduction was obviously not the result of lower equipment costs, but rather reflected better availability of materials, which resulted in more expeditious use of labor. Boiler systems are only $210 above warm-air jobs in the latest figures, while they had been $306 higher the year before.

About 12% of total new home oilheating was sold direct to builders from the burner factories without going through the hands of local dealers. In many instances, however, the dealers were paid for installing the jobs, and of course they also gained a good entree that might bring them fueloil contracts.

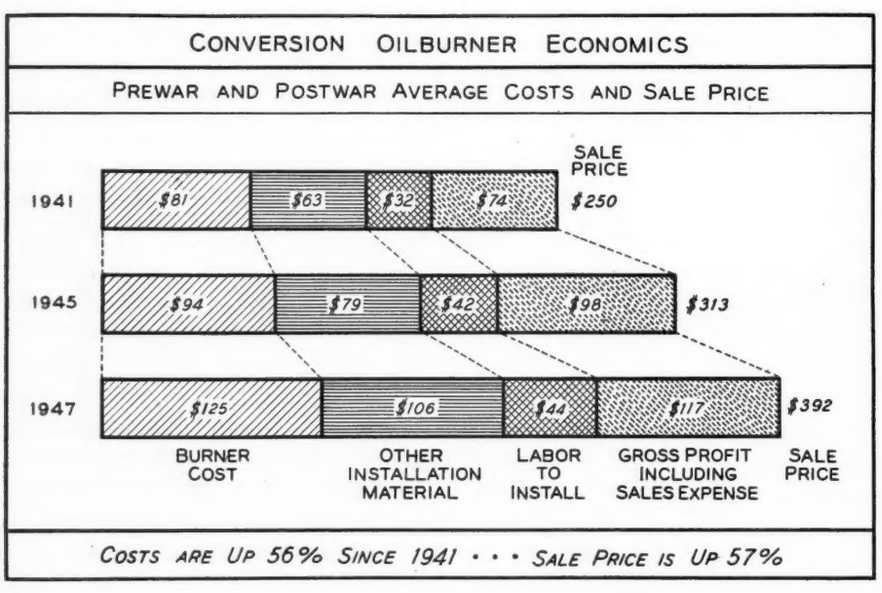
By sections of the country, the amount of new home oilheating sold direct from factories was approximately as follows: New England 6%; Mid-Atlantic 19%; Mid-West 9%; the South 3%; and the Western states 4%.

With oilburner sales slowing down as the year ended, dealers had quite a large number of burners in stock, good stocks of oil tanks, but they also had a considerable number of orders yet to fill. The comparisons of these three items by sections of the country are shown in the table, "Oil Tanks Are More Plentiful." Notice that the table shows the date of these figures to be December 1, 1947, rather than at the end of the year, since it was desired to get exact figures rather than necessitating that any part of them be estimated.

The 61,000 unfilled burner orders on

1947 Installed Cost of Conversion Burner

	New Eng.	Mid. Atl.	Mid-West	The South	The West	1947 U. S. Total	1946 U. S. Total
Paid for Burner	$127	$123	$139	$113	$112	$125	$119
Installation Materials	106	116	99	89	93	106	100
Labor, including subcontract	41	47	40	42	44	44	51
Gross profit, including sales expense	119	110	108	116	132	117	100
Average sale price	393	396	386	360	381	392	370



Oilheating Prices For New Homes

	—FIRING EQUIPMENT ONLY— Conversion Burner	Boiler Burner Unit	Furnace Burner Unit	COMPLETE OILFIRED SYSTEM Oilfired Boiler & Radiation	Oilfired Furnace & Duct Work
New England	$325	$666	$557	$1053	$ 832
Mid-Atlantic	365	746	594	1331	1045
Midwest	347	741	573	917	861
The South	386	898	584	1449	1164
The West	348	..	673	1133	911
1947 U. S. Aver.	352	735	589	1158	948
1946 U. S. Aver.	354	735	578	1298	992

that date would probably not all be installed immediately since there were some scattered indications through the dealer reports that some orders were being held up until an oil supply could be insured. Because that was true, it is obvious that the number of tanks in stock was about sufficient to take care of any immediate requirements.

During the past summer various studies were made of the tank shortage problem and it was learned at that time that there is no shortage of tanks in an area when the number in dealers hands is twice the number of unfilled burner orders in the same region. The reason for this is obvious. Most dealers buy more than they immediately need, to get favorable prices, with the result that some dealers don't have enough, until such time as overall stocks are about double the immediate needs.

If all of the unfilled burner orders were put in immediately, tank stocks would have to have been about 120,000 to be sure that every dealer was supplied. The tanks listed as "Under 275 gallons" were mostly of 220, 250, or 265 gallon sizes, which have become popular in parts of the Midwest and Far West.

A smaller percentage of oilburners were sold for cash in 1947 than in the years just before. The chart shows that installment sales last year accounted for 32% of all sales, compared with 21% in 1946, and with 18% in 1945.

With the installment percentage growing at an accelerated rate, it is possible that 1948 may see us back to the prewar pattern, typified by the year 1940, when installment sales were 40% of the total and cash sales 60%.

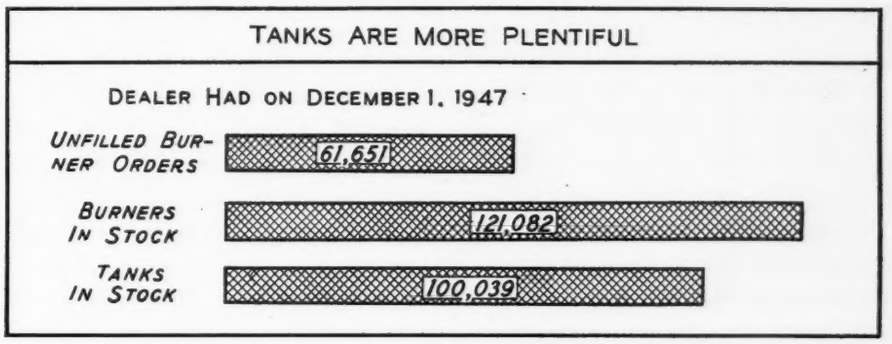
Economists familiar with the general financial picture point out that installment credit in the country as a whole can safely climb to several times its present level before reaching any danger points comparable to those of the 1920's.

About half (48%) of all oilburner dealers employed salesmen in 1947. These dealers sold 69% of the total oilburners. The other 31% of burners were marketed through smaller dealer shops where the proprietor or other head men of the business did the selling. The average number of burners accounted for per salesmen was 68, which compares with 67 per man during 1946.

Oil Tanks Are More Plentiful

Dealer Burner Orders and Stocks—Tank Stocks
(All figures are for December 1, 1947)

	Unfilled Burner Orders	Burners In Stock	OIL TANKS IN STOCK — Under 275 gal.	275 to 300 gal.	550 gal.	675 gal.	1,000 gal. or over	All Sizes
New England	12,449	27,069	3,044	9,491	1,300	..	752	14,587
Mid-Atlantic	21,286	44,863	2,935	25,326	2,995	..	327	31,583
Midwest	21,997	29,110	9,697	15,498	1,743	349	1,087	28,374
The South	3,151	6,165	1,863	3,124	2,082	..	712	7,781
The West	2,768	13,875	8,788	5,328	1,142	2,214	242	17,714
U. S.	61,651	121,082	26,327	58,767	9,262	2,563	3,120	100,039

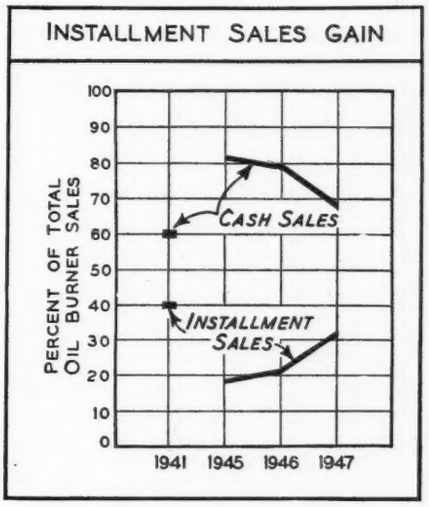


Dealer Advertising Expenditures in 1947

	Per Dealer	Per Burner Installed	Per Service Customer
Newspapers	$294	$2.89	$0.43
Direct Mail	66	.65	.10
Billboards	6	.06	.01
Telephone Directory	71	.70	.10
Radio	48	.47	.07
Total	$485	$4.77	$0.71
Typical dealer, number of customers		102	689

Oilburner Salesmen By Types

	New Eng.	Mid. Atl.	Mid-West	The South	The West	1947 U. S. Total	1946 U. S. Total
Percent of men selling on commission	38	48	36	47	35	42	38
On Salary	26	24	32	7	29	26	32
On Salary and commission	36	28	32	46	36	32	30
Average commission rate	10.3	10.5	10.7	10.0	8.8	10.3	10.7
Average burner sales per man	51	91	55	37	58	68	67



Type of Heating Plants That Got Conversion Oilburners, 1947

	Steam	Hot Water	Forced Air	Gravity Air
New England	48	27	18	7
Mid-Atlantic	32	42	8	18
Midwest	10	20	37	33
South	11	38	29	21
West	5	9	56	31
1947 Avg.	26	30	21	23
1946 Avg.	29	30	18	23

How Oilheating Dealers Handle Duct Work

	Own Shop	Use Prefabricated	Farm Out
New England	18	21	61
Mid-Atlantic	14	27	59
Midwest	41	19	40
South	32	27	41
West	41	18	41
1947 U. S. Aver.	25	23	52
1946 U. S. Aver.	25	21	54

At the average commission rate of 10.3%, and based on the average sale, including extras, of $473, the 1947 commission salesman earned $3,312. An average of this kind necessarily includes new men with relatively little selling ability, just as it includes large groups of men in some organizations where they averaged over $5,000.

The dealers employing salesmen sold an average of 147 burners each, while the organizations without salesmen averaged 60 burners each. All told, the industry had in 1947 approximately 8,300 salesmen. This compares with 4,600 men selling burners in the year before.

It is significant to notice that the large upswing in total oilburner sales was accompanied by an almost equal rate of increase in burner salesmen, and that the number sold by the average man in each year was nearly identical. This appears to indicate a necessity for adding salesmen to an organization if volume is to be substantially increased rather than depending on existing men to sell substantially more by themselves.

Considering everything in the dealer operation, 1947 proved a satisfying year. True, there were difficulties such as tank shortages and unfavorable publicity on fueloil supply, but those were minor compared with the drastic shortages of burners, installation materials, and skilled help in the two preceding years.

There is some gloom over the 1948 outlook and certainly no one can say that it will be a period without serious problems, yet the bulk of intelligent industry analysts expect burner installations of at least 650,000, which will be much higher than any other year except the one just ended.

Service For Economy

With Fueloil Less Plentiful and Higher Priced, Efficiency Imperative

NEVER BEFORE IN peacetime has the oilheating industry so much needed excellent burner service to utilize the ultimate drop of fuel. It's going to be nip and tuck to get through the winter without considerable inconvenience and discomfort, because burners have come along so much faster than has oil availability at the market level.

At least as important, fueloil prices have climbed, like Jack up the beanstalk, until they are double the prewar low points. Twelve and thirteen cent fuels are not to be lightly treated.

Reports from several hundred dealers throughout the country indicate that their activities along fuel saving lines had not been noticeably accelerated during the year. However, it was only at the end of the year that the import of the fuel supply stringency became fully acknowledged and it was in December that the sharpest increases in price occurred.

Starting with the peak months of this winter and continuing for a considerable period ahead, it is particularly vital to the future of oilheating as an industry that every installation, new or old, operate with combustion efficiencies at least as good as would be indicated by a 10% CO_2 and a 550° stack temperature. The average condition today is probably around 6-7% CO_2 and stack temperatures around 650°.

Replacement campaigns getting under way in November and December emphasized efficiency, but actually the total number of replacement sales fell far below what might have been expected, income levels being as high as they are.

Fueloil prices are expected to fall back some from the extraordinary levels of this winter, but not far back, since we want the refiners to go on making it in ever-growing quantities. Fueloil used to be priced to compete with coal, but no longer. Today, and from here out, it will be priced to compete with gasoline at the refinery level, which means that for at least three years it will be considerably higher priced than before the war.

It is curious how reasons for needing the most efficient operation in all burners shift around from one year to the next. Last January it was because gas was making so much headway.

A year ago there was considerable discussion within the industry over the feasibility of overall or universal service plans . . . during the previous fall this had been discussed at several industry meetings. Examples of successful operation of such plans were found here and there during 1947, but the idea lost impetus for the current season because fueloil supply troubles had stolen the spotlight.

Among all dealers reporting this year, 62% think that it would be feasible to have a plan of supplying complete service to all customers on either a dollar basis or on the basis of an addition to the oil price. A year ago 67% voted that such a plan might work. The apparent drop in acceptance of the idea is possibly due to the fact that there were far more small companies reporting this year than last. This is pointed up in the large "Service Analysis" table where it is seen that the average dealer heard from this year had 721 service customers compared with 1,114 last year. The smaller average size of dealer probably affects somewhat the other figures in the table, for it is well known that large dealers, as a group, are inclined to render more thorough service than are the smaller ones.

Universal Service Estimates

	Percent of Dealers Who Think Feasible	*Estimated Costs, Service & Parts*
New England	78%	$19
Mid-Atlantic	72	19
Midwest	51	23
South	50	18
West	27	16
1947 Total	62	20
1946 Total	67	16

The small table shows the percent of dealers by sections who think the universal service proposal feasible and it also shows what they think would have to be charged for complete service, including annual cleaning and all necessary parts, if every customer were on the plan. The overall estimate of $20 compares with $16 last year. The rise is partly because of increased costs and partly because of the average dealer be-

ing smaller, for smaller dealers regularly report higher service costs than larger ones.

In contrast to the recommended charge of $20 for universal service, notice in the large table that the average oilheated family spent for service last year $14.39 . . . the 1946 average had been $12.98.

Of course not all customers, by any means, got complete or fully adequate service in 1947. The total number who had a cleaning and tune-up job was only 38% of all users, as represented by 13% on annual contracts and 25% who bought separate clean-up jobs. The year before 16% had contracts and 23% vacuum cleaning, a total of 39%.

If in 1947 the other 62% of users had had a cleaning and tune-up job at the average charge for this service shown of $7.28, then the overall average spent for service by all oilheated households would have been $18.90. For 1946 the corresponding figure was $16.28, showing that 1947 brought a rise of 16%, assuming everyone had been fully serviced.

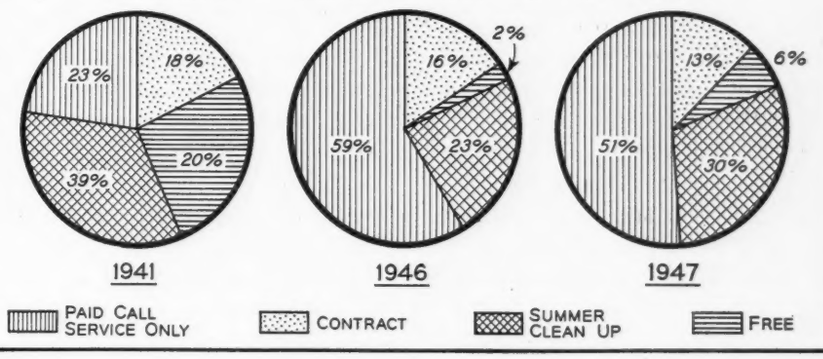
In studying annual contracts this year, a separation has been made between those that do and do not include complete parts. Contracts with parts showed up in good strength in New England and the Mid Atlantic regions. On the average, New England gets $5.67 more for parts and the Mid Atlantic dealers $4.89.

Also for the first time in recent years a check was made on the average number of service calls per account during a year. The figure of 2.0 calls, as a national average, compares with 1.7 which was almost standard in the years just before the war. Dealers attribute the increase to the changed character of fuel-oils.

The number of customers per service man is calculated on a different basis this year. The figures now refer to men who are exclusively on service work and who do not touch new installations. Many of the larger companies isolate their installation and service crews, and only service men from such outfits were included in the tabulation. It appears that the average service man takes care of 340 customers. Such an average of course is markedly below the records of some service specialty firms, where one man handles 600-800 accounts.

LESS SERVICE CONTRACTS • • • MORE SUMMER CLEAN UPS

COMPARISONS OF CONTRACT, CALL AND FREE SERVICE



Service Analysis by Regions

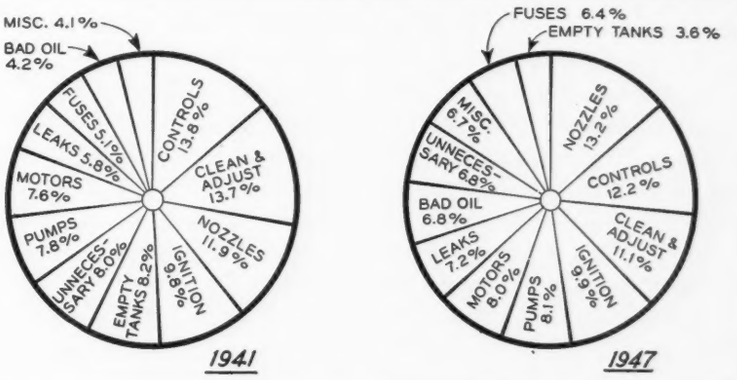
	New Eng.	Mid-Atl.	Mid-west	The South	The West	U. S. Total
Service Income per Dealer	$13,933	$12,285	$8,606	$5,268	$4,116	$10,527
Service Customers per Dealer reporting dollar income	999	765	602	384	454	721
Average Income per Customer	$13.95	$16.08	$14.29	$13.71	$9.06	$14.39
Minimum Call Charge	$2.74	$3.01	$2.79	$2.86	$3.13	$2.91
Annual Contracts, Percent of Customers	19	18	6	3	Neg.	13
Average Contract Price With Parts	$19.15	$20.98	Neg.	Neg.	Neg.	$20.38
Average Contract Price Without Parts	$13.48	$16.09	$15.55	$10.24	Neg.	$15.03
Percent Vacuum Cleaned other than Annual Contracts	26	34	18	20	2	25
Average Vacuum Cln. Charge	$6.44	$8.04	$7.47	$6.01	$6.06	$7.28
Average Calls Per Customer	1.9	2.2	1.9	2.2	1.7	2.0
Customers per Service Man	476	313	295	89	409	340
Percent of Service Free	2	5	11	1	9	6
Service Men's Weekly Income	$63	$68	$76	$60	$79	$70
Percent Union Service Men	8	21	38	10	64	26

Repair Parts and Accessories Sold*

	For Each 1,000 Service Customers	Indicated U. S. 1947 Total
Motors	12	43,036
Transformers	11	39,450
Burner Pumps	18	64,554
Circulators	2	7,173
Low Water Controls	4	14,345
Burner Controls	23	82,486
Draft Controls	14	50,209
Nozzles	65	233,111
Combustion Chambers	13	46,622
Baffles	6	21,518
Air Filters	55	197,248
Oil Tanks	5	17,932

*Does not include reconditioned items.

CAUSES OF SERVICE CALLS; PREWAR AND 1947



Service Wage Rates Per Hour

	NON-UNION						UNION					
	SKILLED			HELPERS			SKILLED			HELPERS		
	High	*Low*	*Avg.*	*High*	*Low*	*Avg.*	*High*	*Low*	*Avg.*	*High*	*Low*	*Avg.*
New England	2.00	.80	1.44	1.60	.85	1.08	1.75	1.15	1.32	1.68	.85	1.10
Middle Atlantic	2.50	.85	1.58	2.00	.75	1.08	2.25	1.65	1.84	1.50	.90	1.21
Midwest	2.50	1.00	1.48	1.75	.75	1.12	2.35	1.15	2.02	2.15	1.25	1.56
South	2.00	.60	1.45	1.50	.35	1.04	1.75	1.50	1.73	1.50	.47	.58
West	2.00	1.00	1.64	1.40	1.20	1.24	2.50	1.92	2.18	2.34	1.32	1.83
1947 U. S. Aver.	2.33	.88	1.53	1.77	.80	1.10	2.18	1.43	1.81	1.78	1.00	1.31
1946 U. S. Aver.	2.02	1.10	1.44	1.60	.70	1.02	1.99	1.43	1.60	1.57	.91	1.12

Free service grew a bit during 1947, reaching 6% of the total (exclusive of service in the warranty period on new equipment), which compares with only 2% in 1946. The term "free service" is somewhat confusing, however, for some companies say they render free service while actually adding its approximate cost to the fueloil price. Examples of this are such markets as Fall River and Buffalo.

Unions gained a little strength during 1947, ending the year with 26% of all service and installation men, compared with 23% the year before. The average weekly income, including overtime, of all service men in 1947 was $70, up 13% from 1946.

The industry's average wage for all mechanics, skilled or helpers, was $1.438, up 11% from $1.295 in 1946. The $1.438 average compares with the average wage of all factory workers of $1.249, according to Federal Reserve Board data . . . oilheating men averaging 15% above factory men, almost the identical relationship that was found in 1946.

There is little problem about getting adequate skilled manpower just now in most parts of the country for the amount of service work being done. Quite a lot more men will be needed though if the industry takes seriously the challenge to make burners perform more efficiently month by month as we meet the full impact of fuel supply problems and high fuel costs.

Fueloil Marketing

With Fast Growing Volume Distribution Efficiency Rises in 1947

WITH THE EXCEPTION OF the latter part of the year, when the winter's supply troubles started giving fueloil distributors some concern, 1947 was the best year in many from the standpoint of operating efficiency and its resulting profit improvement.

It was still difficult to get many of the needed items to properly enlarge the industry's delivery facilities, yet there was less of an element of frustration than than had characterized the first year following the war . . . less tolerance of racketeering practices when a seller tried to get more than the needed item was worth.

1947 appeared to be a year of belt tightening all along the fueloil distribution line, a year of getting more out of the facilities at hand. As an example, the fueloil distributors of the country were able to get delivery during the year of only 5,700 new tank trucks, hardly a normal year's replacement needs, yet they rounded out the year serving 27% more customers than they had at the start.

Better routing, better dispatching of trucks were indicated by several of the yardsticks for 1947. The average truck traveled less miles than it had in 1946 (11,385 compared to 12,626), but it served more customers (244 in 1947 as against only 217 in 1946) and it reached a figure on gallons delivered per mile of operation considerably higher than any previously recorded.

The amount of fueloil delivered per customer during the heating season of 1946-47, of 2,073 gallons, appears on the surface to be high in comparison with the figure of 1,830 gallons reported a year ago. It is probably a little nearer right than last year's figure, principally because this year, for the first time since before the war, the oil men were asked to separate their distillate residential customers from distillate commercial and apartment heating accounts. This would avoid some confusion over just what is a distillate customer.

It is interesting to notice in the large table the regional differences in the amounts of oil used by the average distillate commercial customer and the residual customer. Some of the variations are due to causes well recognized; some are not.

For example, in New England the fueloil distributors have had increasing trouble in the past two or three years to get No. 5 oil for apartment heating jobs. As a result, a lot of burners designed for No. 5 have been using No. 2 oil. Again because buyers of new burners are becoming aware of the No. 5 stringency, an increasing number are putting in burners designed for No. 2 but of large capacity. One New England burner manufacturer recently observed that since the war he has been selling twenty times as many burners of over 15 gph firing rates as he did before the war.

With New England commercial distillate accounts averaging high gallonage, residual accounts in that area also average high, all part of the same story. The small residual accounts, or many of them, are burning distillate instead, so that most of those remaining are quite large.

Just opposite to the New England situation is that of the Middle West. All residuals, including No. 5, have been relatively more plentiful, so that residual fuel gets down into fairly small buildings, holding the average low. Thus the commercial-apartment distillate heating accounts also stay fairly small, with most of them in the 5 to 10 gph category. The Far West has a situation quite similar to that of the Midwest, and its commercial account gallonages look about the same. The Mid-Atlantic area stays near the average of the lot on commercial heating characteristics. Just why the Southern States should have such a high average for commercial distillate accounts is a bit fuzzy, but so are a lot

1947 Guide to Retail Fueloil Distribution

	New Eng.	Mid. Atl.	Mid-West	The South	The West	U. S. Total
Percent of dealers with bulk plants:						
with distillate storage	76	37	90	89	78	65
with No. 1, Kero. storage	64	30	81	56	50	53
with residual storage	neg.	1	11	22	49	9
Avg. storage cap. (thous. gal.) Distillate	84	194	124	112	99	141
No. 1, Kerosene	44	58	60	19	34	51
Residual	neg.	neg.	73	neg.	71	25
Percent of dealers selling No. 1, Kero.	73	53	74	67	39	62
Percent selling Residual	5	19	14	32	28	17
Average sales per dealer (thous. gal.)						
Distillate	1,885	1,977	706	1,005	1,791	1,574
No. 1, Kerosene	321	191	286	274	608	287
Residual	1,350	1,823	472	549	1,183	1,254
Average number of customers per dealer						
Distillate, residential	804	819	392	454	817	691
Distillate, commercial-apartment	39	56	35	35	52	46
No. 1, Kerosene	433	300	348	347	729	384
Residual	31	56	27	31	64	43
Avg. gal. per customer, 1946-47 season						
Distillate, residential	1,847	1,960	1,422	1,190	1,018	1,670
Distillate, commercial-apartment	10,186	6,679	4,218	13,265	4,137	6,840
Distillate, all users	2,235	2,260	1,652	2,013	2,062	2,073
No. 1, Kerosene	742	848	822	541	833	803
Residual	43,902	32,587	17,406	26,140	18,480	28,415
Trucks operated per dealer, Distillate	3.3	3.2	2.4	3.0	2.7	3.0
No. 1, Kerosene	1.4	1.4	1.8	1.6	2.8	1.7
Residual	1.3	3.0	1.3	2.7	1.7	2.1
All types	4.3	3.9	3.6	4.8	4.5	4.0
Customers per truck, Distillate	251	273	178	163	322	244
No. 1, Kerosene	333	214	193	217	260	237
Residual	24	18	21	11	38	22
Annual average miles per truck	8,753	11,850	13,879	10,400	9,043	11,385
Annual gallons per truck (thousands)						
Distillate	550	586	289	281	610	498
No. 1, Kerosene	229	136	159	171	217	169
Residual	1,038	608	363	203	697	598
Average gallons per drop, Distillate	184	220	214	179	159	203
No. 1, Kerosene	57	69	105	48	74	75
Residual	2,728	1,450	1,883	1,300	899	1,611
Gallons per truck mile, Distillate	65	52	21	32	73	48

of other things about Southern oilheating, since as a market the region is relatively new and unexplored.

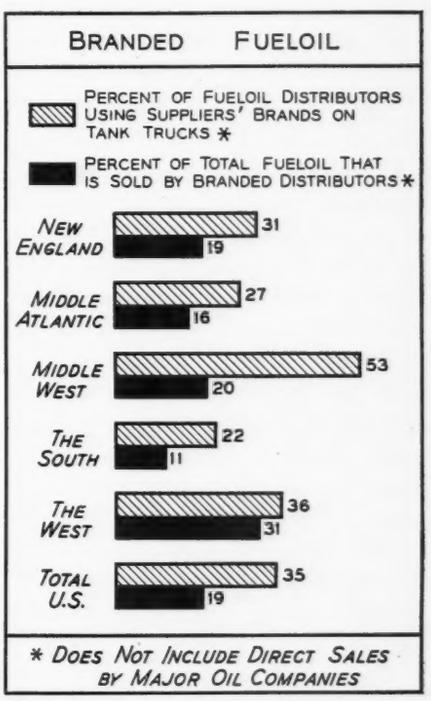
The average number of gallons per drop shows a decline this year from last, with every section of the country sharing in the down trend. In the Midwest it is due in part to the oil supply shortage of last February and March, when a lot of 50 and 100 gallon deliveries had to be made. It is also influenced in that area by the fact that a great many new homes got oilburners this year, all with minimum sized tanks.

Not enough customers are being served through automatic delivery systems . . . only 64% at the year end, with 65% of companies using the systems. The number of companies using degree-days is higher than in 1946, but the number of customers so served is lower, indicating that more small companies are adopting automatic systems and that some of the large companies are not carrying on with them for this winter. Fortunately the shift is not great, but it becomes increasingly imperative that customers be given every delivery refinement if oilheating is to continue to grow in favor. This is true not only because of unfavorable supply publicity to be lived down, but also because oil prices are getting so high.

About a third of all distillate heating accounts are now using outside fill signals (Ventalarm), with quite a high degree of saturation in New England and few in Western States. Mid-Atlantic areas and the South also have substantial percentages.

The small chart on fueloil branding shows that 35% of companies, at the year end, were displaying on their trucks the brand of their fueloil supplier, such as Shell, Socony, Deep Rock, etc., and of course this does not include any of the suppliers' own trucks.

These "branded" companies were on the average fairly small, for they sold only 19% of the total fueloil volume during the year. Toward the year-end quite a number of additional companies were wishing that they had gone on to a branded program, particularly so if they had been habitually spot buyers in the market, for their winter supply outlook was not all they could wish for.


BRANDED FUELOIL
PERCENT OF FUELOIL DISTRIBUTORS USING SUPPLIERS' BRANDS ON TANK TRUCKS *
PERCENT OF TOTAL FUELOIL THAT IS SOLD BY BRANDED DISTRIBUTORS *
NEW ENGLAND 31 19
MIDDLE ATLANTIC 27 16
MIDDLE WEST 53 20
THE SOUTH 22 11
THE WEST 36 31
TOTAL U.S. 35 19
* DOES NOT INCLUDE DIRECT SALES BY MAJOR OIL COMPANIES

A new item checked this year for the first time was the number of fueloil customers lost during the year to other fuels, principally gas and electricity. This amounted to about one and a quarter percent of total customers, and was over four percent in the Western States,

Under Two-Thirds Get Automatic Deliveries

	New Eng.	Mid. Atl.	Mid-West	The South	The West	U. S. Total
Percent of dealers using automatic deliveries	79	78	34	78	44	65
Percent of customers thus served	80	79	38	66	53	64
Percent of dealers using Ventalarms	93	79	33	56	11	50
Percent of users' tanks equipped	65	41	5	39	1	33

Customers Lost to Other Fuels

	Percent of Total Customers
New England	0.43%
Mid-Atlantic	0.40
Midwest	2.14
The South	neg.
The West	4.42
Total U. S.	1.22%

where natural gas in particular was plentiful and, in some mountain areas such as Denver, cheaper than ever before.

Of more than average interest this year are the cost and margin data. Instead of being shown by geographic regions this year, as in the past, they are shown in relation to three general company size groups.

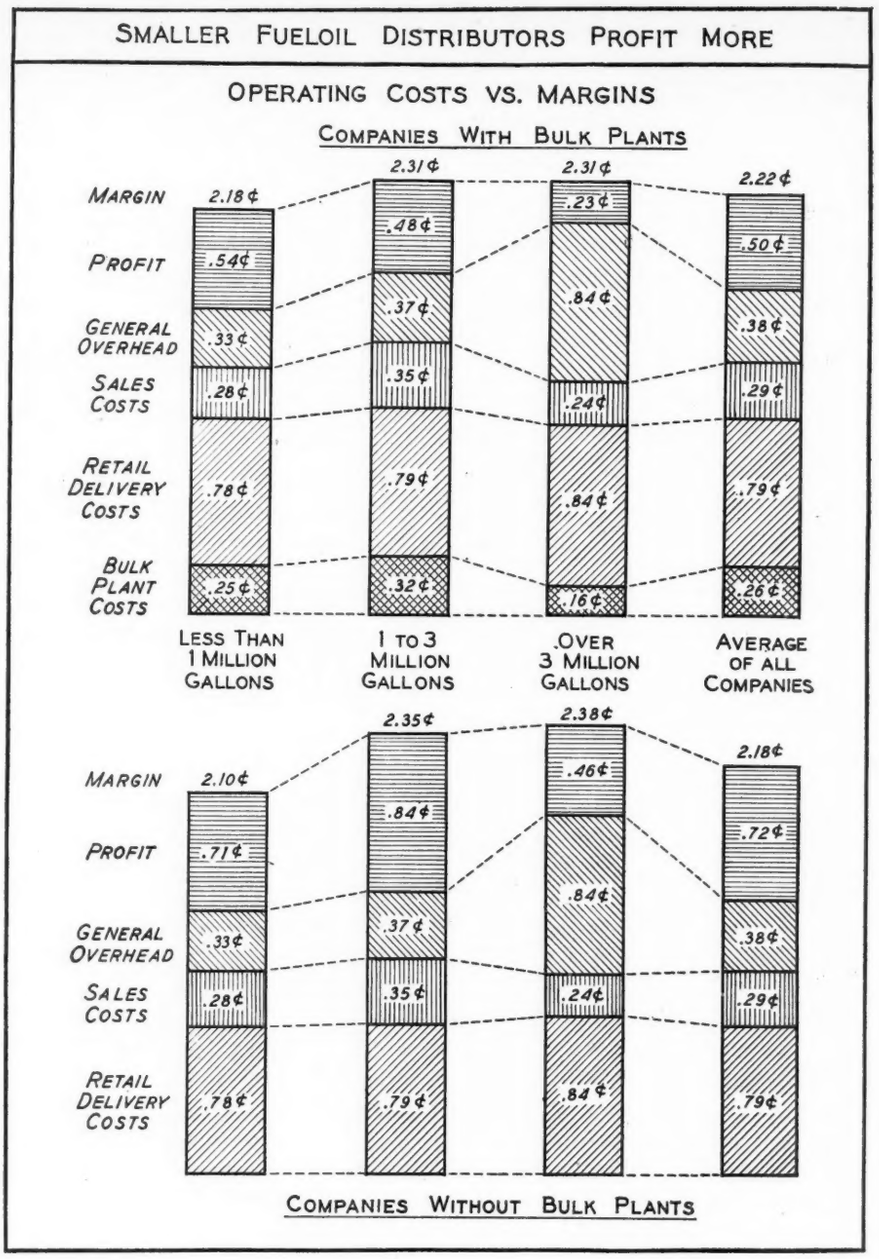
The figures seem to support the belief expressed in several industry meetings during the past year that the smaller fueloil distributors make out considerably better than the large ones. Their margins are usually a little lower, but their costs are more than correspondingly so.

Notice in the chart that companies that sold in 1947 less than a million gallons of distillate fuel, and who had their own bulk plants, had average margins of 2.18¢ and realized a profit after all costs of 0.53¢. The companies in the largest bracket, those with more than three million gallons, with a margin of 2.31¢, had a net profit of only 0.23¢.

When we look at the companies who did not have their own bulk plants, but bought under the spill, we see that the middle sized group, those with one to three million gallons, had the highest profit at 0.84¢. They had a combination of costs almost as low as the small sized group together with margins almost equal to largest group.

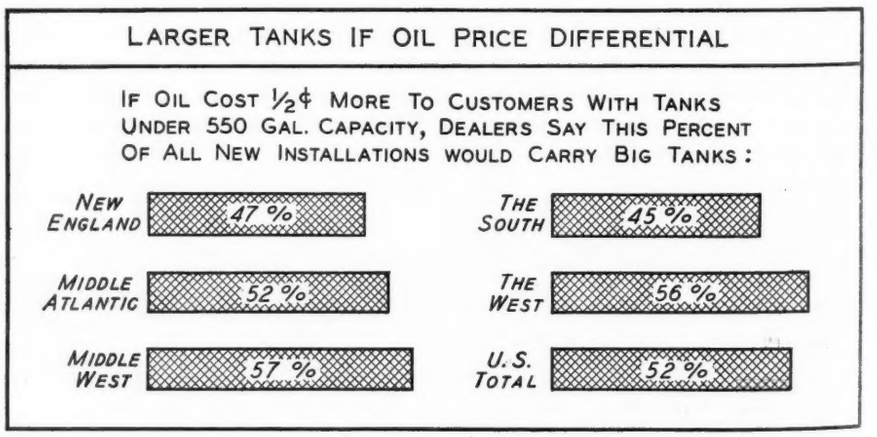
Fueloil distributors with over three million gallons have a harder time making a good profit, principally because of their overhead costs, which seem to jump right up after the three million level is passed. Naturally, this is due to their having to hire a number of extra management men at fairly high cost to do work that the boss himself does in the smaller organization.

The comparisons shown in the chart use the same delivery cost, sales and



New Equipment Bought 1947

	Number
Fueloil trucks under 1,000 gals.	1,253
1,000 to 1,499 gals.	2,274
1,500 to 2,499 gals.	1,763
2,500 gallons and over	464
Total all sizes	5,754
Truck equipment, including that used on new trucks—Meters	9,280
Pumps	10,970
Hose Reels	8,886
Fueloil Hose, feet	1,364,674
Bulk plant equipment, Tanks	1,972
Pumps	1,067
Meters	882
Total new tank capacity, gals.	38,744,000
Fill signals for customers tanks	339,022



overhead figures in the upper and lower halves, since those items were figured straight across the board covering all companies in the size indicated. The differences in margins between the upper and lower parts of the chart are thus limited to a separation between bulk plant and non-bulk plant companies. It is again quite clear, as it was a year ago, that it doesn't pay to own a bulk plant except for the sense of security in having better control of a business. Certainly average margin differentials won't pay the operating cost of the plant.

Although not indicated in the chart, it may help in evaluating it to know that of all reporting companies, 70% were in the smallest size group, 22% in the middle group and 8% in the largest.

During 1947 there were several discussions within the industry on the subject of getting larger storage capacity at the consumer level, in view of the generally tightening distillate availability. The most conspicuous attention given the subject was at the annual meeting of the Empire State Petroleum Assn. at New York in the fall, where a five man forum explored several possibilities in this direction.

As shown on the small chart, fueloil distributors, nationwide, believe that 52% of new burner installations would include a 550 or larger tank if it could be made common practice in the oil industry to add ½¢ to the price of home heating oil wherever customers had less than 550 storage capacity. The obvious advantages to the oil man are well known, if drop sizes could be doubled on new jobs, but there is another important advantage in having large tanks . . . by getting twice as much oil away from the refineries in the summer there is a better chance that they will make enough during the course of a year.

The table facing the chart shows that it would cost the average new burner buyer only $100 more for a 550 gallon buried tank, and this would be a sound investment if it meant that oil through the years was to cost a half cent less because of the large tank. When this winter's supply problems are out of the way, the industry should seriously study the possible advantages through bracket pricing.

Extra Charge For Larger Tanks

(To be added to burner sale price with one 275 gal. tank)

	550 Gal.	Add'l. 275	675 Gal.	1,000 or over
New England	$ 98	$72	$ ..	$189
Mid-Atlantic	129	89	..	218
Midwest	75	69	110	175
South	63	69	..	151
West	59	68	113	136
U. S. Average	100	75	111	186

FHA Applications Reach All-Time Peak

NOVEMBER applications for mortgage insurance applications received by FHA field offices established an all-time record and covered 76,734 dwelling units. New construction accounted for 65,166 of these units, and small home mortgages to be insured under Section 603, Title VI accounted for 29,573 units. Mortgages under Section 608 to finance 566 new rental housing projects covered 30,404 units of the November total. Remainder were under the regular provisions of Title I and II.

Four Applicants For Each Of Forty-One Tankers

THE LAST 41 T-2 TANKERS not yet committed for sale by the Maritime Commission are up for sale, but the commission has a problem in deciding which of 168 U. S. bidders should get them. All applications for purchase were received at about the same time, and all American oil transport companies asking for the tank ships are eligible to purchase. The price, set according to the age and condition of each tanker, cannot be less than the floor price of $1,598,949 or above the unadjusted sales price of $2,152,500.

Meanwhile the tankers are in operation under general agency agreements with the profits of the operations going into the Treasury. The commission recently stipulated that tankers operated under general agency agreements, not needed for military requirements, must be used domestically. Their purchase would remove this restriction and continued high bids from foreign missions could mean that these tankers would be diverted to foreign waters, further tightening the domestic situation.

Another forty-six tankers, allocated for sale to foreign-flag purchasers, but immobilized in reserve fleets while the Department of Justice ponders the legality of these sales, will be added to the forty-one for sale to American buyers if the ruling is against present foreign commitments.

The commission is also forced to choose from many applicants for the remaining twenty-four Liberty-type tankers which must be sold to American buyers. It does not have such a hard choice for the not-so-desirable coastwise-type, T-1 tankers. It has thirteen for sale and only one applicant.

Report 73 Degrees As Average Home Temperature

TELEGRAMS were sent December 3 to 23 large oilheating dealers in ten states East of the Rockies, asking them to conduct a poll of their oilburner servicemen to learn their impressions of the thermostat settings they encounter in the many homes where their services are required.

They were also asked to learn from the servicemen their average impression of the number of families that set back the thermostat at night to a lower temperature, and about how far back these were set, or to what night temperature.

The 23 dealers who supplied the information employ 310 burner servicemen, and virtually all of these were encompassed in the spot-check.

These men are responsible for oilburner service in a total of 80,040 homes, so the survey is probably adequate for its purpose.

Findings:

- The average home is heated during the daytime to 73°.
- Only 52% of families with automatic oilheating turn back the thermostat at night.
- These families have average night temperatures of 65°.

Conclusion:

- If all families could be persuaded to maintain daytime thermostat settings of 70° and turn the thermostat back to 60° for eight hours at night, the fuel saving would be fully 15% as compared to a continuation of present temperature habits.

Among all fuel saving possibilities, turning down the thermostat offers the greatest possibility for saving—quickly and without any expense whatever.

Innocent Abroad

A Burner Manufacturer Tells Of His Experiences in Sweden

by

B. C. Lindberg*

THRIFTY, INDUSTRIOUS SWEDEN, which on the map of Europe will be found stretching like a long finger from beyond the Arctic Circle down into the Baltic Sea, has rapidly become one of the world's leading users of oil burning equipment. Long famous for its high-grade steel, tidy farms and forest products, Sweden has likewise gained top rank not only for the widespread adoption of oil heat but for the caliber of oil burner installations which are second to none in quality.

Prior to the war, the Swedish people —ever "engineering conscious"—had been quick to accept the power oil burner as the modern answer to dependable, economical heat in a climate where heat is a major consideration for many months of the year. However, with the outbreak of hostilities in Europe, the Swedish people were forced to revert to the use of handfired fuel, which in most every case was their own domestic wood. At the end of the war, Sweden had a favorable supply of dollars and people clamored for a return to automatic oil heat. Many were able and willing to pay any price and there was no shortage of importers and dealers who would oblige them.

*Assistant to President, Silent Glow Oil Burner Corp., Hartford, Conn.

As a result of the heavy demand, practically every manufacturer in the United States was flooded with inquiries both from honest, able distributors and dealers in Sweden as well as from hundreds of individuals who saw a golden opportunity to make quick, easy profits. Many manufacturers who were sincerely interested in establishing a market in Sweden were stage struck by the paper work necessary for this trade and consequently sold a part of their production at legitimate prices to exporters with little more than impressive letter heads, the latter selling these burners in Sweden to irresponsible opportunists.

Looking To Future Market

We at Silent Glow had taken the attitude that the limited number of burners allocated for export sale during the critical period of post-war production must serve to provide a future market as well as an immediate profit. In other words, unless in our opinion the buyer offered reasonable assurances of future business, he could not buy a single burner. This "rule of thumb" automatically excluded all letter head exporters and importers.

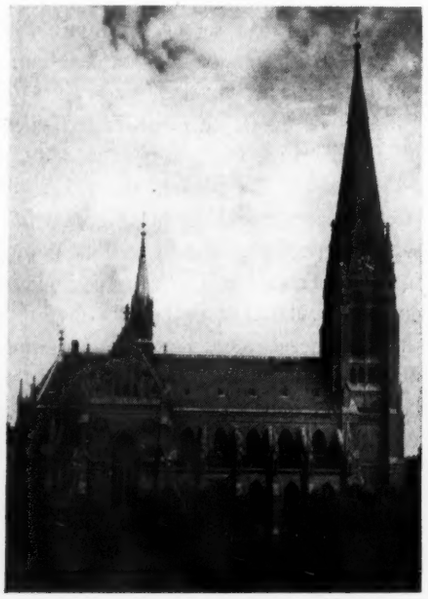
Our association with the Swedish market began soon after the war's end when Mr. Gosta Arnheim, a young engineer of Stockholm, visited Hartford. Formerly employed as Export Sales Manager of L. M. Ericcson, manufacturers of telephones, time recorders and allied electrical equipment, Mr. Arnheim had resigned his position to enter the oilheating business. Because he measured up to our "rule of thumb" and further demonstrated that his interest was equal to ours (a characteristic which has persisted to the present) he received our promise of cooperation and as many burners as could be spared without impairing our obligations to domestic dealers. Returning to Sweden and surrounding himself with oilburner men of long experience, he formed Maskinaktiebolaget Carat.

Sells Larger Buildings

Carat concentrated its sales effort on the larger buildings—apartments, hotels, office buildings, churches, schools, etc. Shortly after our first shipment, The Office of International Trade placed oil burners up to six gallons per hour on the positive list. Silent Glow received its quota of export licenses but in addition was able to ship five larger models beyond the six gallon limit.

The first sizable order for large gallonage installations came from the big Swedish mining concern, Höganä-Billesholms AB, producers of earthenware

One *of Gothenburg's recently built apartments, equipped with Silent Glow. Sweden has gone all out for modern buildings, such as this.*



St. Johannes *Church, Stockholm, dating back to 1692, is one of many churches using Silent Glow burners.*

Main *office of the government-owned telegraph system in Gothenburg, for whom 145 Silent Glow installations have been made.*

Wood, *still the main fuel, is piled up for the winter in every available space.*

and ceramics. Well known institutions such as Dramaten, Hotel Eden, Skansen, also made an early appearance on Maskin AB Carat's list of installations. Next came the Telegrafverket which contracted for burners to be installed in their buildings located in Stockholm, Malmö and Gothenburg. The satisfaction of the latter was typical of all Carat's customers, and shortly thereafter Telegrafverket issued new contracts for an additional 90 burners to be installed in their offices and stations throughout Sweden. To date, the number of installations for this Government owned utility stands at 145.

During the early part of the past summer, six of our burners were installed in Drottingholm Castle, residence of King Gustav of Sweden, where their satisfactory operation proved to be a decisive point in awarding to Carat the contract for the Royal Palace itself in Stockholm. As might be expected this contract naturally was sought by almost every manufacturer's representative or distributor.

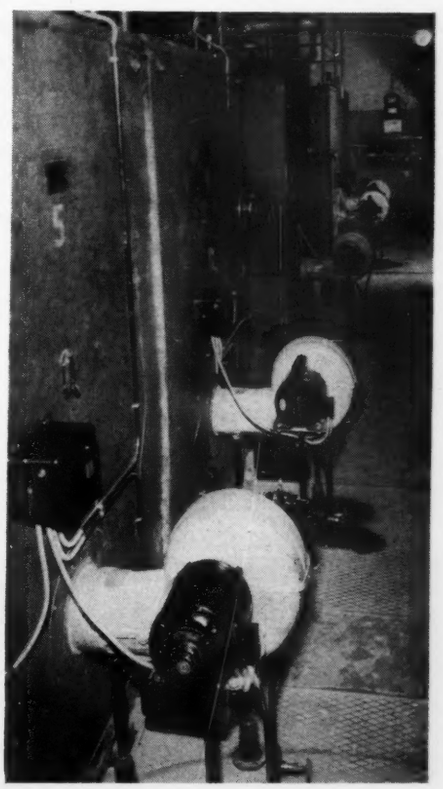
More recently, Stockholm's public schools came up for oil firing and here again, Carat was able to contract for seventy per cent of these installations.

Although Carat could have installed all of its burners in Stockholm, Malmö and Gothenburg during its first year of operation, Mr. Arnheim was both fair and far-sighted in that he apportioned a substantial number to dealers in other cities throughout Sweden. As shipments increased, the number of cities with Silent Glow dealers likewise increased so that now 40 of Sweden's largest cities have representation. Dealer activities have assumed such proportions that it has been necessary for Mr. Erik Hedrenius, Sales Manager for Carat, to spend three weeks of every month in the field where his years of oilburner experience have paid dividends.

Captain Siösteen, formerly in the Swedish Air Force, has done an outstanding sales job in Stockholm. Mr. Emil Linde, an experienced oil burner engineer, supervises Stockholm installations and service and together with Mr. Hedrenius assists dealers on larger jobs. Mr. Ake Molin serves as coordinator of all of Carat's activities in Stockholm and amongst their dealers.

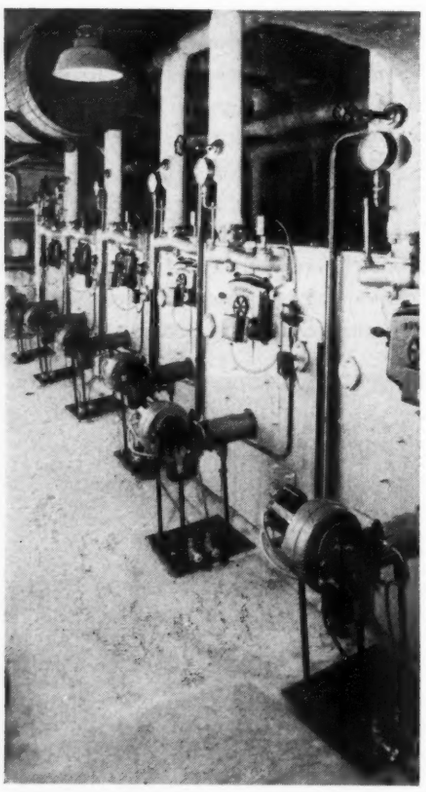
While automatic oil heat enjoys a favorable reputation in Sweden, there has been some damage done by irresponsible exporters in the United States and importers in Sweden. Occasionally one hears oilburners referred to by their

One of *Stockholm's apartment housing projects.*



These *five model 6800's, each burning 15 gph, provide heat and hot water for 26 buildings, a total of 528 apartments.*

owners as "one of those contraptions." Then too, a few Swedish "inventors" and high pressure selling groups have successfully developed some business. Last summer the author saw under test a "gadget" burner consisting of a high speed motor, fan, blower tube and oil pilot "completely automatic." When the burner came on, the whine of the motor and the roar of the fire could be heard blocks away—provided the pilot light did not blow out! During a recent visit an installation of this so-called burner was observed in Kil, a town of some 2,000 people. A sales group had sold and installed ten of these "gadgets" in Kil at a cost to each buyer of 1,850 Swedish Crowns or $514.00 and since then had moved on from town to town duplicating its tactics. In this particular town, there was only one of these installations remaining, the other nine having been replaced with American burners. The lone survivor was installed in one of the few business buildings consisting of two or three stores with apartments above. The owner of the building, who lived some miles away, checked its operation five times a day, shutting it off each night at 11:00 P.M. and starting it up again at 5:00 A.M. After seeing the operation of this burner, it was difficult to understand how anyone would dare to live or do business in the building.



Six *model 2800's at Drottningholm, heating the castle and other buildings.*

Installations of questionable repute, such as the above, are anything but popular with the Swedes who are quality conscious to the nth degree and in the latter respect Maskin AB Carat is traditionally Swedish. Their craftsmanship and painstaking care which go into every job is truly impressive. Each combustion chamber is engineered to the boiler and is custom built to exacting specifications. Visible copper tube oil lines, many of which must be run overhead, are neatly suspended with uniform bends. Each installation must be letter perfect to pass a rigid inspection by engineers from the main office.

Due to the quantity of installations, steel and tanks have been extremely short. However, Mr. Arnheim and his able associates have been so successful in obtaining steel in Sweden and from other countries that no job has been held up because of this shortage.

Practically all heating systems, small or large, are hot water, the boilers having water grates. Instead of using one large boiler, apartment buildings, schools, etc. have a battery of boilers, each boiler requiring a burner which functions independently.

Approximately ninety per cent of the current in Sweden is the European standard, 220 volts-50 cycle. The balance consists of 110, 127 and 160 volts, 50 cycle, some 220 volts-25 cycle and some D.C., the latter still being quite popular in older Stockholm. Although ten per cent of our shipments have been 110 volts, 50 cycle, for all practical purposes one can standardize on 220 volt-50 cycle.

Due to the reduced R.P.M. (1425 on 50 cycle as compared with 1725 on 60 cycle) some American burners have been over rated, the loss in maximum capacity being more staggering on larger jobs. The Silent Glow Model 8800, rated for thirty gallons per hour at 1725 R.P.M., yielded a top of seventeen gallons per hour at 1425 R.P.M. On this and other models a factory change in housing design enabled the use of a larger fan which provided approximately the same maximum capacity at 1425 R.P.M. as with the standard housing and fan operating at 1725 R.P.M.

What the future oilburner market in Sweden has in store for American manufacturers is difficult to foretell. Sweden reached the bottom of its dollar cash register some time ago. Its free harbors are loaded with U. S. goods. There are hundreds of cars—crated and uncrated—tires, tractors and other equipment which have been standing in the open for months. In the warehouses are all sorts of materials including oilburners galore for which there are no dollars.

Then, too, a breathing space is necessary. During 1947 probably as many burners were installed as would normally be installed in a 10 year period and although last year and during the first half of 1947 there was an excess of oil, such is not the case at present. Today, no one orders an installation unless he

(*Continued on page* 209)

Drottningholm *Castle is shown at the left, where King Gustav resides nine months of the year. Building at the right is the Stockholm Royal Palace now heated by four Silent Glow Model 8800 burners.*

Summer-Winter Hot Water

Simple and Complicated Wiring for Year-Round Systems

by
J. W. Schulz

SERVICE MEN starting new burners or tuning up old installations often wonder which settings to use for the different limit controls. The use of four or five temperature controls on a forced-circulation boiler-radiator plant used for summer-winter hot water naturally confuses a novice at service work . . . at least until he has figured out the why and wherefore of each of the controls. Understanding the function of a control gives an idea of the proper adjustment of the control. That's one reason why service experts, as well as installation experts, must know burner wiring diagrams backwards and forwards. Aside from that, to locate and repair wiring defects on an installation with a generous assortment of controls, the service expert must know what each control is supposed to do and how it should be wired.

The wiring for steam heating plants used for summer-winter hot water is simple. To keep a steam boiler warm in summer, a boiler temperature control simply is wired in parallel with the room thermostat of the installation. Whenever the room thermostat circuit stays open long enough for the boiler temperature to drop to, say, 160°, the boiler temperature control snaps "on," shunts the room thermostat, and starts the burner. Diag. 1 shows the boiler temperature control in parallel with the room thermostat, and is the type of diagram usually used for steam-type summer-winter hot water layouts.

Where a tankless water heater is used with a steam boiler, you must use wiring of the type shown in Diag. 1, for you must keep the boiler hot at all times during the summer. But where a steam boiler and a tank-type indirect water heater are used to heat a hot water storage tank, you can use the wiring ideas of Diag. 1 or Diag. 2.

More and more of the wiser oil-burner dealers are taking advantage of the fact that it's easy and inexpensive to add a tank temperature control to a steam heating system which heats a hot water storage tank the year 'round. You install a temperature control (contact type or immersion type) on the hot water tank and wire the control in series with the already-installed boiler temperature control. This gives you the wiring idea of Diag. 2, and that's all there's to it.

You gain important advantages by adding a tank temperature control to any summer-winter layout equipped with a hot water storage tank.

First, the burner stays idle when no heat is needed from the radiators and the hot water tank is warm enough. In summer, the burner will run only when the tank needs heat. Permitting the heating boiler to chill in summer when the

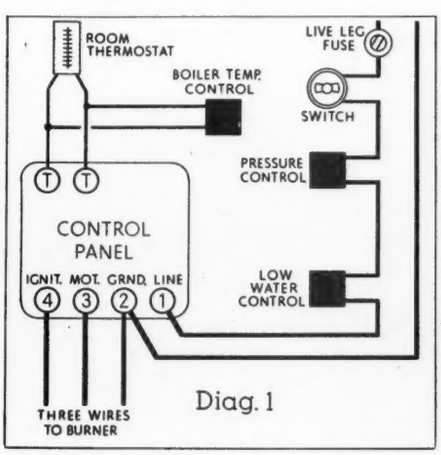
Memo
From Chief Engineer
To All owners of summer-winter water htg. layouts with H.W. storage tanks
Your fuel oil bill can be reduced by Tank controls
Special controls include a tank temp. control. Cut your summer oil bill 50%, your htg. season oil bill by 10% to 15%.
Save Fuel!

hot water tank is well heated often cuts the summer oil consumption by 50%. For the heating season, oil savings may amount to 10% to 15%. At night and on mildly cold days, the heating boiler automatically becomes cool when the radiators need no heat and the hot water tank is hot enough.

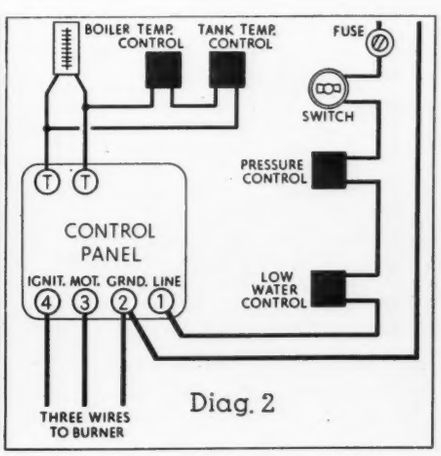
Second, because it eliminates hundreds of short, unnecessary burner "on" periods each year, the hot water tank control gives cleaner combustion. The flues of a boiler stay cleaner when in summer, for example, the burner runs three times a day and about 20 minutes at a time, instead of running 15 to 30 times a day and only a few minutes each time.

Third, the hot water tank temperature control helps cut down on service calls and service expenses. When it starts and stops fewer times a year, a burner gives less trouble. The motor and the controls, particularly, behave better throughout the years when spared a few hundred unnecessary starts and stops a year. The cleaner burning given by the tank control lowers service expenses; stack controls give less trouble, and flue cleaning is needed less frequently.

The maximum advantages of a tank temperature control are gained on installations which have large, well-insu-



Diag. 1



Diag. 2

lated hot water storage tanks. The tanks should be in the horizontal position, as high above the boilers as is feasible. The coils which heat the tanks should be of generous capacity; it's good to use enough indirect heater capacity to heat all the water in a tank in about one hour and a half, on a 100° temperature rise basis with the boiler water at 180°.

On many installations, the tank temperature control should be set at 120° or 125°. Usually this control is located halfway up the side of the hot water tank. The top of the tank is the hottest part of it, particularly when during peak load time the tank tends to chill rapidly and the heating boiler becomes hot. Incidentally, always connect the output line of the indirect water heater to a tee located above the hot water tank, and from one opening of this tee run the hot water line to the faucets. The third opening of this tee connects, of course, to a short nipple in the top of the hot water tank.

When you use a tank temperature control, set the boiler temperature control higher than you would ordinarily set it. The boiler should heat to about 200° when the tank tends to chill. For the summer, this gives much more hot water for peak hot water loads than comes of keeping the boiler at, say, 160° all the time.

Paradoxically, the proper use of a tank control gives many home owners about twice as much hot water in summer as they had before for peak loads (with their boiler temperature controls keeping their boilers at about 160° all the time) even while it cuts the summer fuel consumption by about 50%.

Diag. 3 gives the idea of the usual wiring for forced-circulation hot water heating plants used for summer-winter hot water. This arrangement is used with tankless water heaters and tank-type water heaters.

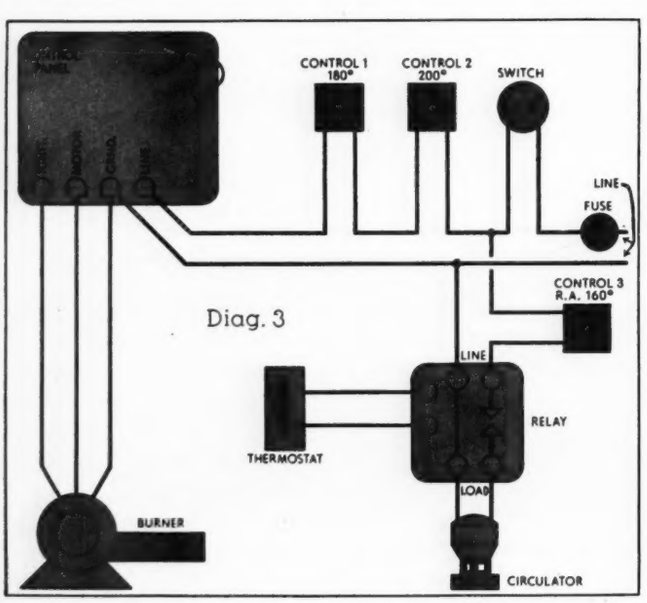
Control 1 is a boiler temperature control usually set at about 180°, and used to start and stop the burner so that at all times the boiler is at the desired temperature. Control 2 serves for safety; it will stop the burner if Control 1 wears out, becomes short-circuited, or for any reason stays "on" when it should not. Of course, Control 1 could be connected to the low-voltage circuit of the burner control panel.

A low-voltage room thermostat is connected to the simple low-voltage relay used for the circulator. When the circulator runs, hot water from the heating boiler flows to the radiators; otherwise there is no flow of water to the radiators.

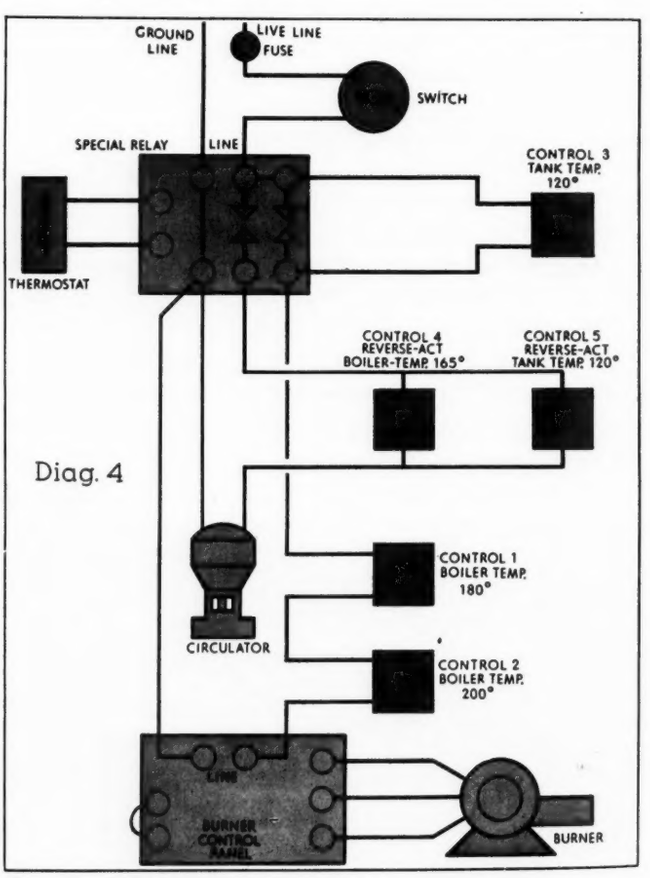
Reverse-acting Control 3, set at about 160°, prevents the circulator from chilling the boiler below the temperature for which this control is set. This control is particularly important on a tankless heater installation. Without it, raising the setting of the room thermostat a few degrees would run the circulator long enough to chill the boiler so much that the water from the tankless water heater would run cold. When the circulator tends to chill the boiler, Control 3 turns off the circulator. The lowering of the boiler temperature starts the burner, of course, by affecting Control 1. When the boiler temperature increases sufficiently, reverse-acting Control 3 starts the circulator, but is ready, as before, to stop it if continued circulator operation again threatens to chill the boiler so much that the water from the tankless water heater will run cool.

A reverse-acting boiler temperature control (Control 3 in Diag. 3) is not needed for certain installations equipped with hot water storage tanks. If excellent judgment leads you to believe that without this control a large hot water tank never will become cool, then omit the control. But if later it works out that the hot water tank tends to become cold because operation of the circulator chills the boiler, you will have to add a reverse-acting boiler temperature control to the installation to end the trouble. *(Continued, page 108)*

Hot water controls to save fuel



Diag. 3



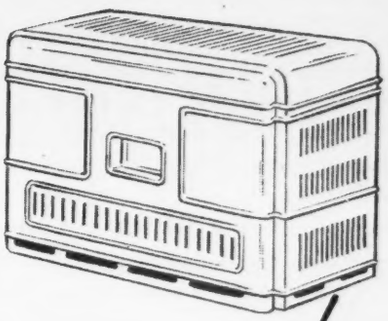
Diag. 4

Stop

THAT "BUCKET BRIGADE"

with a

"DETROIT" CRC-433 *FUEL TRANSFER PUMP*



Modernize old heater installations and equip new vaporizing burners with the "Detroit" CRC-433 Fuel Transfer Pump. It eliminates carrying fuel oil from storage tank to heater—makes the fuel system entirely automatic.

Your customers will enjoy the added convenience of this quiet and trouble-free means of fuel supply.

Capacity—80 cc. per minute, or 1⅓ gallons per hour, at 25 foot suction lift.

The following features of the CRC-433 mean satisfied customers and extra profit to you:

Compact • Neat Appearance

Quiet Operation

Large Inlet Strainer, Easy to Clean

Motor Driven Four-vane Pump

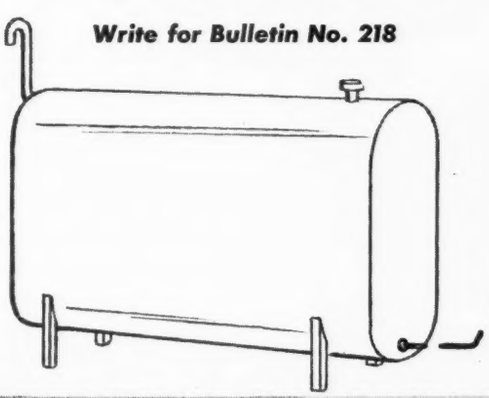
Overflow Connection

Easy to Install

Automatic Shut-off if tank runs dry

Simple Construction, Easy to Service

Write for Bulletin No. 218



2915

"DETROIT" FLOAT VALVES

For space heaters, water heaters, floor furnaces, furnaces and ranges. This is the best, most reliable control for vaporizing oil burners. Easily cleaned, maintenance no problem. Full temperature compensation assures even flow of fuel regardless of oil temperature. "Detroit" CRC-239 illustrated. Write for bulletin.

DETROIT LUBRICATOR COMPANY

"DETROIT"

General Offices: 5900 TRUMBULL AVENUE, DETROIT 8, MICHIGAN

Division of American Radiator & Standard Sanitary corporation

Canadian Representatives — RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators

A certain conservative-minded heating contractor, for example, provides reverse-acting boiler temperature controls for all of his forced-circulation hot water systems. He says he knows these controls may be wasted where there are very large hot water storage tanks. But, he says, call-backs to install controls are very costly to him, and he does not want complaints because he has omitted the reverse-acting controls from the certain installations which need them. It is impossible to say definitely beforehand which tank-equipped installations need these controls and which will work well without them, declares this heating contractor.

Diag. 4 appears complicated, but brings out the point that five temperature controls, each with a definite function, may be used to make certain of maximum performance from a forced-circulation hot water heating plant which has a hot water storage tank. As will be explained, Diag. 4 can be simplified greatly by omitting certain of its features but without losing the advantages of using a tank temperature control.

To begin with, a special relay is used for the circulator in Diag. 4. This relay has two sets of load-carrying contacts. Both sets close when the room thermostat circuit closes, but are open otherwise. Relays of this type are readily obtainable.

To gain an understanding of Diag. 4 quickly, consider Controls 4 and 5 omitted to begin with; consider the circulator wired directly to the special relay so that the circulator motor runs when the relay snaps to its "on" position. Then the circuit works like this:

1. When heat is needed from the radiators, the room thermostat circuit closes and both sets of contacts in the relay close. The right-hand set of contacts (of the relay) starts the oilburner by giving current to the "Line" terminals of the burner control panel. The left-hand set of contacts starts the circulator.

2. When the hot water storage tank chills below 120°, Control 3, which is the tank temperature control, starts the oilburner. It starts only the burner, and it does this by shunting the relay contacts which are in the live line to the burner panel.

3. The oilburner operates only if (a) heat from the radiators is needed, or (b) the hot water storage tank is chilling. In summer, the burner stays idle and the heating boiler chills when the hot water tank is hot enough.

4. Controls 1 and 2 are boiler temperature controls which, connected in series with the live wire to the burner panel, protect at all times against the boiler's overheating. Control 2 is installed simply to give safety in event of trouble with Control 1. The idea is the same as was explained for Controls 1 and 2 in Diag. 3.

The big idea of Diag. 4 is that the room thermostat starts both the burner and the circulator, while the tank temperature control starts only the burner.

Control 4 is a reverse-acting boiler temperature control set at 165°. When the hot water tank is hotter than 120°, Control 5 (a reverse-acting tank temperature control set at 120°) shunts Control 4, rendering it inoperative. Control 4 is needed to prevent the circulator from chilling the boiler only when the hot water storage tank needs heat.

Where the hot water storage tank is so large that a reverse-acting boiler temperature control is not needed, Controls 4 and 5 are omitted, simplifying the circuit considerably.

Actually, Controls 3 and 5 can be a single tank temperature control equipped with two switches, one direct-acting and one reverse-acting and both suitable for in-the-line connection to a burner or circulator motor.

Advantage for Hot Water

Compared to Diag. 3, Diag. 4 gives this important fuel-saving advantage for hot water heating plants which has "steam-size" radiators that must be heated to 200° or a higher temperature for coldest days. With relatively small radiators, using Diag. 3 makes it necessary to keep the boiler very hot at all times, so that it is not necessary to set up the boiler temperature controls for coldest days. Keeping the boiler very hot continuously wastes oil by increasing the standby loss of the boiler. Besides that, it often gives the annoyance of overheating the hot water for the faucets, whether a tankless or tank-type water heater is used. The water mixing valve, which certain price-conscious dealers know they should install but are reluctant to pay for, becomes a necessity.

Diag. 4 works out well with "steam-size" hot water radiators because the boiler temperature rises to its maximum (to the temperature for which Control 1 is set) only when the burner is kept running by either the room thermostat or the tank temperature control. Most of the time during the heating season, the boiler temperature is relatively low, as things actually work out on closely-studied installations. The boiler standby loss is low, and the fuel consumption is low.

Diag. 4 has one additional important advantage. When the circulator starts during mildly cold weather, the radiators are not flooded each time with extremely hot water from the boiler. Noises caused by pipe and radiator expansion are avoided. "Bumpy heating," caused by overheating the radiators in mildly cold weather, is avoided.

Tank Control Cuts Runs

Here's a suggestion for the burner dealer and service man who has an inquiring mind but who up to now has not investigated the decided advantages which can be gained through installing tank temperature controls. Install a tank temperature control on a hot water storage tank connected to a steam boiler. Using a contact type control, you can do this in a few minutes; the wiring is low-voltage. Check the summer oil consumption against what it used to be, and ask the home owner about the fewer starts and stops his burner makes. To be thorough, study the performance of the installation with and without the tank temperature control in operation, using an inexpensive on-off recorder or motor operation recorder, which records every start and stop of the burner motor. With a large and well-insulated hot water tank (located high in the basement, and in the horizontal position) and an indirect water heater of adequate size, you'll find that by installing a tank temperature control you can cut the summer oil consumption in half. You'll arrive at better, cleaner combustion. You'll cut down on the amount of attention the burner needs. You'll be proud of your creative step which makes for better oil-heating!

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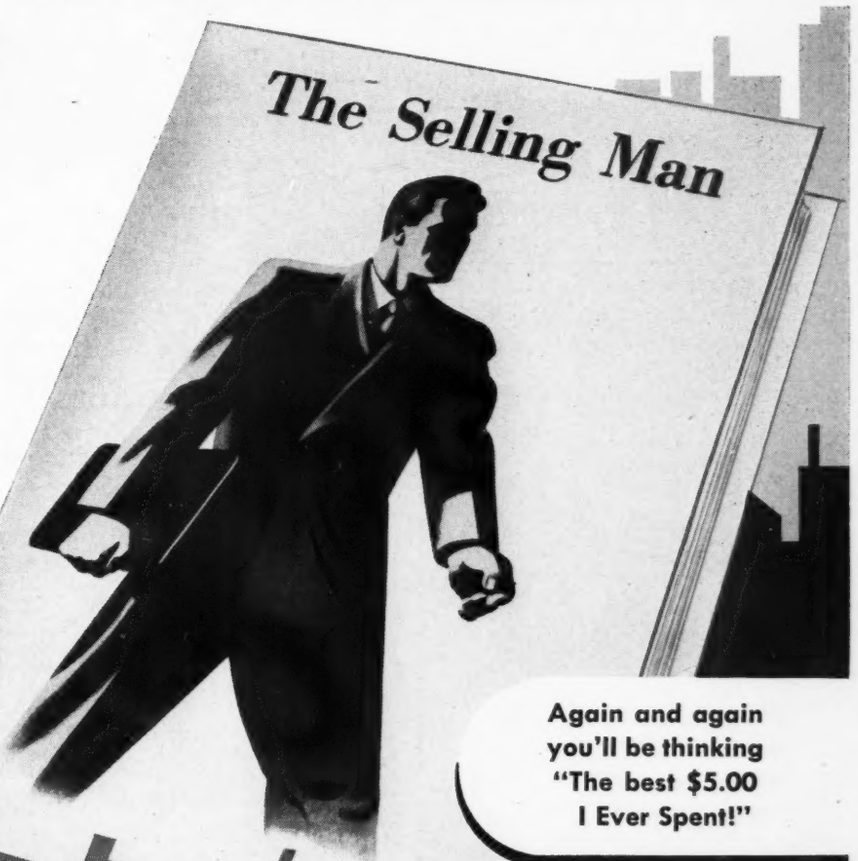

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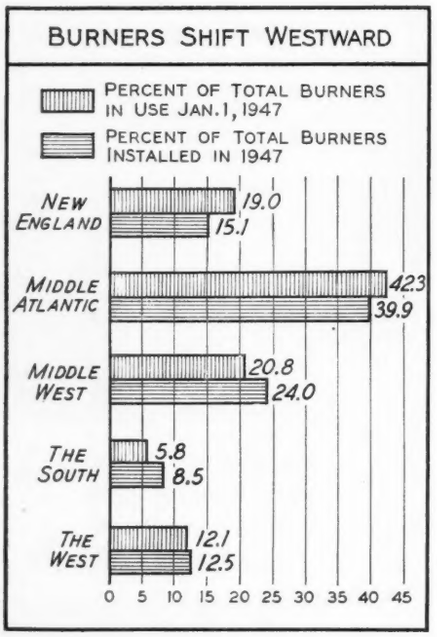
fueloil & oil heat

Oilheating Growth By States

THE FACT THAT the number of oilburners in use increased during 1947 by 27% doesn't mean that all sections of the country were blessed alike.

Among the areas where oilheating is popular and widely accepted the Midwest showed the strongest rate of gain with 31.1%. Of course, as the table shows, the Southern states actually have the largest percentage rise, 39.8%, but that is less significant to the overall picture because of the much smaller number of burners in that area.

The New England and mid-Atlantic states, where a much higher degree of saturation has been reached, show the lowest gain rates, as would have been expected. Some of the Midwest gains



were stimulated by inability of gas utilities to take on additional heating load. This was particularly true of the new home market in the central states.

On the other hand oilheating is rapidly coming into the smaller cities and towns of the Midwest where people have in the past depended on coal. In a period of relative prosperity families in all brackets of living standards want to get away from the drudgery of shoveling. It was quite apparent in going through several hundred returns from dealers that the average growth rates in small places were considerably higher than in large cities.

The Southern and Western groups of states, which were relatively inconsequential only a few years ago accounted for 21% of 1947 installations, and while they are pretty far flung to think of as a market, yet some parts of them such as the Pacific Northwest and the South-Atlantic states well justify active sales promotion.

1947 Oilburner Installations and Total Operating at End of Year
(by States)

	Burners in Use 1/1/47	*Additions During 1947*	*Annual Rate of Gain*	*Burners In Use 1/1/48*	*Percent of U. S. Total*
NEW ENGLAND					
Maine	35,657	12,008	33.7	47,665	1.33
New Hampshire	28,933	9,264	32.0	38,197	1.06
Vermont	10,273	2,262	22.0	12,535	.34
Massachusetts	289,715	57,433	19.8	347,148	9.69
Rhode Island	41,870	5,533	13.2	47,403	1.32
Connecticut	130,839	28,298	21.6	159,137	4.45
Total New England	537,287	114,798	21.4	652,085	18.19
MIDDLE ATLANTIC STATES					
New York State	526,114	129,769	24.7	655,883	18.30
N. Y. City Dist.	385,202	73,158	19.0	458,360	11.90
New Jersey State	259,005	67,767	25.8	326,772	9.12
Newark Dist.	159,215	29,160	18.3	188,375	5.25
Pennsylvania State	212,425	68,533	32.3	280,958	7.83
Philadelphia Dist.	189,242	58,938	31.1	248,180	6.92
Delaware	17,894	4,058	22.1	21,952	.62
Maryland	135,086	29,147	21.5	164,233	4.58
District of Columbia	42,525	5,504	12.7	48,029	1.34
Total Mid-Atlantic	1,193,049	304,778	25.5	1,497,827	41.79
MIDDLE WESTERN STATES					
Michigan	99,562	31,961	32.1	131,523	3.67
Ohio	29,020	16,841	58.0	45,861	1.28
Indiana	30,141	11,313	37.5	41,454	1.15
Illinois	121,521	21,014	17.3	142,535	3.98
Wisconsin	72,597	25,902	35.7	98,499	2.75
Minnesota	110,546	24,950	22.0	135,496	3.87
Iowa	37,457	10,580	28.2	48,037	1.35
Missouri	32,672	23,120	70.8	55,792	1.56
Kansas	4,739	1,245	26.3	5,984	0.16
Nebraska	24,856	7,231	29.1	32,087	0.89
South Dakota	12,042	5,235	43.4	17,277	0.48
North Dakota	10,416	3,661	35.1	14,077	0.39
Total Midwest	585,569	183,053	31.1	768,622	21.53
SOUTHERN STATES					
Virginia	61,789	26,680	43.2	88,463	2.49
West Virginia	403	39	9.7	442	.01
North Carolina	23,853	9,751	40.9	33,604	.96
South Carolina	7,229	3,777	52.2	11,006	.30
Georgia	5,851	1,905	32.6	7,756	.21
Florida	21,011	11,130	53.0	32,141	.89
Kentucky	3,032	1,268	41.8	4,300	.11
Tennessee	5,504	2,535	46.1	8,039	.22
Alabama	4,572	1,352	29.6	5,924	.16
Mississippi	987	46	4.7	1,033	.02
Arkansas	1,744	85	4.9	1,829	.05
Louisiana	7,439	1 118	15.0	8,557	.23
Oklahoma	1,200	13	1.1	1,213	.03
Texas	18,628	5,310	28.5	23,938	.68
Total South	163,236	65,009	39.8	228,245	6.36
WESTERN STATES					
Eight Mountain States	44,034	10,696	24.3	54,730	1.52
Washington	102,078	27,241	26.8	129,319	3.59
Oregon	55,664	19,888	35.7	75,552	2.10
California	140,127	37,424	26.7	177,551	4.95
Total West	341,903	95,249	27.9	437,152	12.16
Total U. S.	2,821,044	762,887	27.0	3,583,931	100.00

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fuelOil & oil heat

Supply Outlook Tighter As Peak Season Arrives

IF EVERYTHING GOES ahead just as it is now, with no important shift in consumer or oil industry habits, there is not going to be enough No. 2 and 3 heating oil to keep everyone warm this winter. After a lot of more or less conflicting viewpoints on the subject during recent months, there is now a settled conviction that we're heading into real trouble unless in some way we can get the public to use less oil or the industry to produce more. There are definite possibilities in each direction, but in the main they have yet to be realized.

Compulsory rationing was very much a possibility until the last week in December when the President signed the Republican Anti-Inflation Bill carrying a provision for joint industry activity to allocate scarce commodities, if the Department of Justice should approve. At press time, there is a fair probability that the oil industry, as represented by the National Petroleum Council, and the Oil and Gas Division of the Department of the Interior will undertake cooperative effort toward allocation of both supply and transportation.

Rationing Now Improbable

Presumably, that would not actually put the Government into the oil industry, or vice versa, but rather would be a temporary expedient that would be done away with, some Spring. There is yet no certainty that we can completely avoid rationing, although the lateness of the date would seem to argue against it. The Republican Congressmen have tried to keep themselves in position to advocate rationing if it becomes apparent that there is not going to be enough oil to go around.

They were put on the spot by the President's request for rationing authority, should it become necessary, and no Senator or Congressman relishes the thought of going into a Presidential election campaign, trying to appease constituents who went chilly during the previous winter because of his refusal to give the President what he asked for.

Oil men generally, however, recognize that the crises, if any, will occur during the second half of February, so if the industry gets along that far without rationing or other serious Government straitjacket, there is little chance that the politicians can then move in time to be effective.

Meanwhile, Washington has been very active, officially and otherwise, in making a show at solution of the industry's problems.

At a number of recent congressional hearings . . . those headed by Senator Wherry, Senator Tobey and others . . . the industry has been asked a lot of questions. Some were answered openly and candidly, quite a number were hedged or in some way guarded in reply, as though the industry did not want intrusion from outside interrogators.

After a December 9 hearing under the chairmanship of Senator Tobey (R. New Hampshire), in which the testimony of industry men, Maritime Commission, Commerce Dep't. and Navy admirals seemed a bit foggy in total, a committee was appointed by the senator to review the testimony and make recommendations for action, based not alone upon the transcript but also on whatever ideas they might have.

Personnel of the committee: Robert Dunlop, president, Sun Oil; Jack Rathbone, president, Standard Oil Co. of New Jersey; Brewster Jennings, president, Socony-Vacuum Oil Co., J. P. Patterson, Pan-American Pet.; Clyde Morrill, managing director New England Oil Men's Assn., Boston, and Atlantic Coast Oil Conference, New York; John W. Scott, president, Buckley & Scott, Watertown, Mass.; John P. Birmingham, president, White Fuel Corp., Boston; June Richdale, vice-president, Colonial Beacon Oil Co., Boston; R. T. Westmoreland, Jr., Providence, R. I.; Martin Ryan, Bridgeport, Conn.

The New England flavor of the committee is due to the fact that the senators sponsoring it had been working with the New England governors in recent sessions to explore the probabilities of an emergency arising . . . and because the chairman is a New Englander. However, since the Senate group is a sub-committee of the important Interstate Commerce Committee, the actual recommendations from the industry men apply to the country as a whole.

Important Recommendations

The Committee recommendations, which have been pretty generally accepted by all Washington groups since they were submitted included the following principal points: (1) The stringency for the area East of the Rockies will amount to about 15%. Although the report did not say so, this figure allows enough leeway for a severe winter.

(2) Consumer cooperation in reducing fueloil consumption is believed to constitute the most important factor, and the report indicates that if all consumers would cooperate wholeheartedly a saving of 10% could be attained. The report recommends widespread educational action by all segments of the oil industry and local government agencies.

(3) Immediate and abnormal adjustment of refinery yields to maximize the production of distillate fueloils, at the expense of gasoline, during the next two or three months. The report estimates that this will gain an additional five to seven percent in total quantity of distillate fuels.

(4) The Maritime Commission should expedite in every possible way the putting of idle tankers to work.

(5) Increased crude production in the

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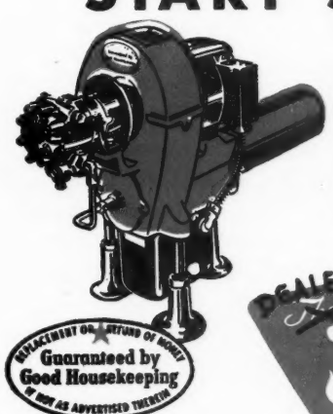

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fueloil & oil heat

Gulf states is essential to fill presently idle refinery capacity. The Bureau of Mines and various state commissions are asked to permit increased production rates for the next two months, wherever transportation is available to move the crude to idle refining capacity.

(6) The U. S. Government should limit its fueloil requirements for the first quarter of 1948 to the absolute minimum, and it should also release for civilian use any stock it may have which can be released without hampering military or other essential government operations during this winter.

(7) The Department of Commerce should exercise rigid export control to make sure that only minimum export requirements are met during the critical period.

(8) Governors of each state where fuel shortages are likely to appear should appoint an emergency fuel coordinator with an adequate staff, including local representatives in every principal market to handle hardship appeals, by getting the fueloil marketers in each community to set aside a small portion of their total gallonage for such purposes.

Actions Taken

Since this report was submitted, a week before Christmas, Senator Tobey has taken steps to effectuate some of the recommendations. He wired Governors of twenty-eight states requesting that they appoint fuel coordinators, and, while not all Governors followed the recommendation, more than half did.

A number of them very quickly built up statewide organizations penetrating every important community. One result of this has been that local Mayors and other city or village officials have jumped into the fuel situation with a lot of fanfare and reams of publicity.

Whether all of this publicity is going to be detrimental to oilheating remains to be seen. It might even be helpful. The late Henry Ford used to say, "I don't care what they say about Fords, just so they talk about them."

Senator Tobey also followed through on the committee's recommendation to try for higher fueloil yields at refineries. He wired all principal refiners, asking them to have in his hands by Monday, January 5, a concise record of their refinery operations from November 1, 1947, by weeks, up to the present time and to include projected refinery operating figures to March 31, 1948. He asked for total crude runs and the amount of each principal petroleum product produced from the crude. In other words, Tobey, in so far as possible, is out to get more fueloil at the expense of gasoline.

On the same day, January 5, Representative Wolverton, heading a subcommittee of the House looking into fuel stringencies, called in the heads of the Maritime Commission to find out how quickly they could switch some of the tankers now in Navy service to supply fueloil to the North Atlantic markets. It has been quite obvious that considerable help could be had by temporarily minimizing Army-Navy demands but thus far there had been no voluntary cooperation on the part of the Armed Services.

They not only increased their stated requirements up to seven percent of the country's total petroleum products, but they also refused on two previous occasions to defer taking some of this product until after the winter is over. Possibly Representative Wolverton can get them to change their views.

Meanwhile, the American Petroleum Institute has switched its public relations program to fuel conservation, using the slogan "If Everyone Saves, There Will Be Enough For All." A large amount of campaign material has been prepared and the conservation campaign will be well under way by mid-January. In addition to urging fuel saving, it also includes gasoline, showing people how to cut down their consumption by some of the steps that were advocated during the war years.

Several major oil companies are emphasizing in their advertising and on their radio broadcasts the "70-60" theme that resulted from a field study made by FUELOIL & OIL HEAT in early December. This study, covering key dealers in ten states, shows that average home temperatures are maintained at 73° in the daytime, and that half of the householders turn back their thermostats at night to an average of 65°.

The study pointed out that if all families during this emergency period would set their thermostats at 70° during the daytime and 60° at night, the fuel saving would be at least fifteen percent, which is more than we need to save.

Believing that concentration on this one point might strike home better than discussion of many points, four major oil companies are now strongly emphasizing the 70-60 temperature theme.

"It's just a little contraption I rigged up to help maw take her cakes out of the oven"

◈

Stanolind Drops Prices Amount of Freight Saving

STANDARD OIL (Indiana) reduced prices of all major oil products from one tenth to six tenths a gallon, following an amendment to the authorization to increase freight charges, which became effective on January 5. Reductions in freight rates are passed on to dealers and consumers in tank wagon prices.

◈

New York City Backs Natural Gas Application

AN APPLICATION of the Trans-Continental Gas Pipelines Company to build a $15,000,000 natural gas line from Texas to the eastern bank of the Hudson River has received the backing of New York's Mayor William O'Dwyer. The application is before the Federal Power Commission, and also is backed by the New York Public Service Commission. Natural Gas is sought for enriching the manufactured gas now distributed by Consolidated Edison Company and the Brooklyn Union Gas Company.

Texas Eastern Transmission Corp., which bought the Big and Little Inch lines, will apply "in the near future" for permission to build additions to its lines to serve areas in the East, according to officials. The lines now terminate at Linden, N. J., but no gas is being transported east of Pittsburgh. Eastern extentions of the lines are being used for storage.

Webster Electric Transformers

When a Webster Electric Transformer goes into service it is a guarantee of top performance—positive ignition under all conditions; long, dependable life, freedom from ignition troubles. Webster Electric Transformers are of well balanced design that is an outgrowth of thirty years of research and manufacturing experience. They are widely used as standard by the industry and are well adapted to simple and convenient replacement.

Webster Electric Transformers have the following features:

- Easy interchangeability.
- Three sizes offer wide adaptability.
- Extra sized junction boxes provide easy connections.
- Separate mounting plates for replacement.
- Secondary coil protected by mica insulation.

Webster Electric Fuel Units

Years of experience in the heating field have given Webster Electric engineers the knowledge of field requirements. As a result, the Webster Electric Fuel Unit is designed and manufactured to meet precisely those requirements. Actual satisfactory use has proved their top performance and success.

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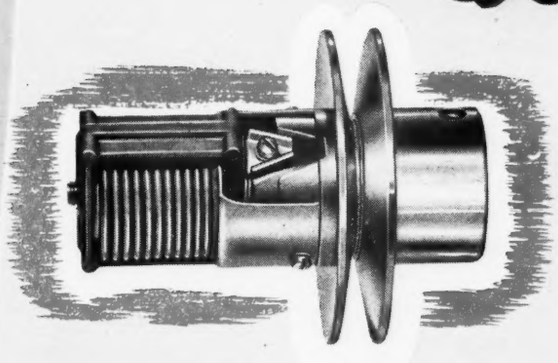

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Sell-Out Seen For ASHVE New York Show

A MONTH before the Eighth International Heating and Ventilating Exposition was scheduled to open, almost three hundred exhibitors had rented all available space. The Exposition, being held at Grand Central Palace, New York, N. Y., commences February 2 and closes February 6. It is being held under the auspices of the American Society of Heating & Ventilating Engineers, New York, N. Y., which will hold sessions during the period of the show.

Admission to the Exposition is by invitation or registration, for which there is no fee. Hours the first day, February 2, extend from 2:00 to 10:30 P.M.; on the four other days from 12:00 noon to 10:30 P.M.

Sessions on the ASHVE program will all be held at the Hotel Commodore. The program begins on Sunday, February 1 with registration and continues on February 2 with a business session at 9:30 A.M., at which reports of officers and committees are to be heard. Also, papers on fire control methods and State laws on industrial exhaust ventilation will be delivered.

Tuesday, February 3 has scheduled morning and afternoon technical sessions. After a report of the tellers of election, the morning meeting will hear a discussion on downward projection of heated air, discharge of air from a long slot, friction equivalents for round, square and rectangular ducts, and a summary of ASHVE research in air distribution and ventilation. Papers to be presented at the afternoon session will deal with measurement of heat output of one square foot of panel, air temperature gradients in a panel-heated room, periodic heat transfer at inner surface of a wall and a report on the Society's panel heating research program.

Two more technical sessions on February 4 will include talks on solar heat transmission, test method for rating air filters and a symposium on heat pumps to feature six papers.

At the final technical session on February 5 a new method for selecting winter design temperatures and use of climatological data in heating and cooling design will be topics. The balance of the period will witness installation of officers, adoption of resolutions and other Association business.

Social activities planned for the week start with a Welcome Luncheon, a hospitality hour at 5:30 and "The Shank of the Evening" at 9:30, all on February 2. The evening of February 4 has been set aside for the annual banquet, at which the past president's emblem is to be presented.

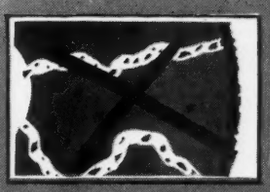
◈

List of Exhibitors*
8th INTERNATIONAL HEATING & VENTILATING EXPOSITION
Grand Central Palace—New York
February 2-6, 1948

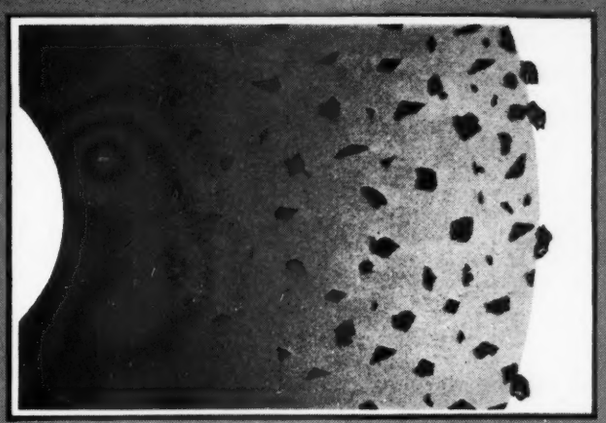
	Space No.
Ace Engineering Co.	550-551
Acme Industries, Inc.	558-559-560
Aerofin Corp.	233
Air Devices, Inc.	412-413-414
Air Filter Corp.	518
Air-Maze Corp.	561-562-563
Air and Refrigeration Corp.	427-428
Airtemp Div., Chrysler Corp.	46-47-58-59
Airtherm Mfg. Co.	226-228
Aldrich Company	502-503-504
Alliance Mfg. Co.	471
Alstrom Corp.	605
American Air Filter Co., Inc.	18-19
American Artisan	42
American Gas Association	7 to 15
American Mfg. Co.	463
American Mohawk Co., Inc.	526-527
American R. & S. Sanitary Corp.	2-3-4-5-6
American Soc. of Htg. & Vent. Engs.	A Main
American Steel & Wire Co.	311-313
American Stove Co.	474-475-476
Anderson Products Inc.	642
Anemostat Corp. of America	16-17
April Showers Co.	270
Armstrong Machine Works	338-340
Austin Heating Service	617
Au-Temp-Co Corp.	542
Auto-Heat Corp.	285-287
Automatic Devices Co.	229-231
Bacharach Industrial Instrument Co.	411
Baltimore Aircoil Co., Inc.	652
Bauer & Black, Div.	640
Bear Mfg. Co.	501
Bearlee Products Co.	515
Bell & Gossett Co.	48-49
Beltran Associates, Inc.	648-649
Best Eng. Co., Inc., W. N.	639
Dan Bierman	661
Boston Machine Works	567-568-569
Breuer Electric Mfg. Co.	653
Brown Electric Co.	215
Bryant Heater Co.	7-15
Builders Iron Foundry	356
Burden Co.	650
Burnham Corp.	242-244
C-S Brass Mfg. Co.	641
Wm. & T. Camp	7-15
Cargocaire Eng. Corp.	655-656-657-658
Carnegie-Illinois Steel Corp.	311-313
Carrier Corp.	66-67
Castle Industries Co., Inc.	469
Catskill Metal Works, Inc.	630
Century Eng. Corp.	72 & 73
Certified Furnace Co.	528-529
W. M. Chace Co.	441-442
Chelsea Fan & Blower Co., Inc.	633-634
Chicago Pump Co.	38-39-40
Circulators & Devices Mfg. Corp.	659 & 660
Cleaver-Brooks Co.	91-92-93
Clercold, Inc.	434
Cleveland Steel Products Corp.	43-44 B
Climax Machinery Co.	609
Coleman Co., Inc.	241-243-245
Cole-Sewell Eng. Co.	541
Columbia Burner Co.	AGA Exh.
Columbia Steel Co.	311-313
Combustion Control Corp.	472-473
Combustioneer Auto. Coal Burners	489-490
Commercial Filters Corp.	507
Conco Engineering Works	237
W. B. Connor Eng. Corp.	63
Consolidated Industries, Inc.	32-33-632
Continental Air Filters, Inc.	457-458
Crane Co.	209-211-213
Crotty Mfg. Corp.	543-544
Cuno Engineering Corp.	409
Curtis Refrig. Mach. Div.	278-280-295-297
Cyclotherm Corp.	493-494-495
Davis Eng. Corp.	201
Dielectric Products Co., Inc.	203
F. W. Dodge Corp.	400-400 A
Dole Valve Co.	220-222-224
Dollinger Corp.	522-523
Domestic Engineering	28 W & 28 E
Dowagiac Steel Furnace Co.	461 A
Doyle Vacuum Cleaner Co.	346-348
Dravo Corp.	87-88
Duo-Therm Division, Motor Wheel	89-90
F. W. Dwyer Mfg. Co.	299
Eagle-Picher Sales Co.	487-488
Eckhart Mfg. Co.	247
Electro Specialty Mfg. Co.	461 A
Electromode Corp.	644-645
Empire Stove Co.	572
Enterprise Eng. & Fdry. Co.	483-484
Ever-tite Coupling Co., Inc.	575
Fairbanks Co.	269-271
Fairbanks, Morse & Co.	78-79
Fairfield Oil Htg. Co., Inc.	420
Farr Company	265-267
Federal Boiler Co., Inc.	638
Field Control Div.	266-268
Fireline Stove & Furnace Lining Co.	35
Fitzgibbons Boiler Co., Inc.	56-57
Forest City Foundries Co.	516-517
Frigidaire Div.	401-402-403-404
Fueloil & Oil Heat Magazine	225-227
Fulton Sylphon Div.	303-305-307
G. R. Gelert Co.	662
General Electric Co.—Air Cond. Dept.	70-71
General Elec. Co.—Apparatus Dept.	393-395
General Eng. & Mfg. Co.	263-264-266
General Filters, Inc.	549
General Fittings Co.	389-391
General Oil Htg. Corp.	322
General Power Plant Corp.	481
Gold Star Oil Burner Mfg. Co.	678-679
Greenlee Tool Co.	535-536
Grinnell Co., Inc.	251
Hanson-Gates Mfg. Co.	514
Harner Boiler Co.	461 B
Hart & Crouse Corp.	500
Heating, Piping and Air Cond.	42
Heating Research Corp.	330-332
Heating and Ventilating	81-82
Henry Furnace Co.	282-284-291-293
Herco Oil Burner Corp.	309
Hershey Machine & Foundry Co.	512-513
Holcomb & Hoke Mfg. Co.	625-626
Home Ease Products Div.	317-319-321
Homestead Equipment & Mfg. Corp.	665
Hook & Ackerman, Inc.	7-15

*As of January 5, 1948

New Micronic Filter Principle Makes Good News to Oil Burner Users



Other depth-type filter elements are susceptible to surface loading and channeling. Minimum openings on pressure side cause dirt accumulation on surface — element clogs before filling. Uncontrolled distribution of filter media in element permits fluid to find channels, passing solids larger than specified.



Cross-section of MICRO-KLEAN oil burner filter cartridge. A newly-developed method of "felting" and impregnating micronic fibres creates a fibre distribution which increases in density in direction of flow. Spaces between fibres become progressively smaller and more numerous approaching discharge surface. *Graded Density in Depth* eliminates surface-loading, permits more solids of all sizes to be collected *within* the element. *Resinous Impregnation* bonds each fibre in position, preserving original fibre distribution, giving absolute protection against channeling, rupturing, shrinking, distortion.

CUNO MICRO-KLEAN Oil Burner Filter...

NEW Specially Designed ...Available Now!

Model ICI Cuno MICRO-KLEAN Oil Burner Filter. Strong lightweight aluminum housing quickly disassembled for cartridge replacement by removing single cap nut.

Investigations by oil burner manufacturers show that the new Cuno MICRO-KLEAN Oil Burner Filter provides the most efficient, lowest-cost protection for burner nozzles against micronic particles, rust and water in the fuel.

Exclusive construction features help the MICRO-KLEAN element to remove *more* of the smaller particles. (See above.) Channeling, which would permit foreign matter to pass through the filter, is positively prevented; and so is surface-loading, which would prematurely clog the element.

Model ICI is expressly designed for oil burner service. Standard replacement cartridges will also fit many other oil burner filters already installed.

CUNO

Fluid Conditioning

REMOVES MORE SIZES OF SOLIDS FROM MORE TYPES OF FLUIDS

See the CUNO MICRO-KLEAN at International Heating and Ventilating Exposition Cuno Booth No. 409

Send Coupon for Information on Micro-Klean Filters.

Cuno Engineering Corporation,
851 South Vine St., Meriden, Conn.

Please have nearest Cuno representative provide information about Cuno MICRO-KLEAN Oil Burner Filters and replacement cartridges.

Name..... Title.....

Company.....

Address.....

	Space No.
Hotstream Heater Co.	7-15
Hunter Fan & Ventilating Co.	521
Illinois Testing Laboratories	545-546
Iron Fireman Mfg. Co.	451 to 456
Jackson & Church Co.	465-466-467
Jefferson Electric Co.	239
Jenkins Bros.	85-86
Jones & Brown, Inc.	636
Joy Manufacturing Co.	637
Kauffman Air Cond. Co.	547-548
Kaustine Co., Inc.	205
Kehm Corporation	376-378-380
Kent Co.	573
Kewanee Boiler Corp.	304-306-308
Korfund Co., Inc.	618
L. O. Kovan & Brother, Inc.	36-37
Kresno-Stamm Mfg. Co.	479-480
Krueger Sentry Gauge Co.	663-664
Langtot, Inc.	532
Lenal Co., Inc.	433
Joseph E. Lewis & Co.	680
Libbey-Owens-Ford Glass Co.	462
Lieblich Burner Service	524-525
Linde Air Products Co.	530-531
Lindy Heaters, Inc.	611
Lockformer Co.	614
Lonergan Mfg. Co.	621
Ernest C. Lundt, Inc.	AGA Exh.
McDonnell & Miller, Inc.	62
Milwaukee Gas Specialty Co.	AGA Exh.
Modine Mfg. Co.	381-383-385
Monarch Mfg. Works, Inc.	354
Moore Co.	289
Morrison Steel Products, Inc.	AGA Exh.
Morse-Smith-Morse Inc.	272
Henry M. Morton Associates	631
L. J. Mueller Furnace Co.	316-318-320
Multi-Vent Div.	283
Munn and Steele, Inc.	669-670
Mystik Adhesive Products	651
National Air Cond.	218
National Home Equipment Co.	461 A
National Oil Burner Co.	274-276
National Radiator Co.	248-250-252-254
National Tube Co.	311-313
Newark Transformer Co.	612
New York Oil Heating Association	539
New Yorker Steel Boiler Co.	94
Niagara Blower Co.	23-24-25
Norge-Heat Div., Borg-Warner	556-557
Norman Products Co.	405 to 408
C. A. Olsen Mfg. Co.	282-284-291-293
Owens-Corning Fiberglas Corp.	416-417-418
Pacific Mfg. Corp.	552-553
Packar Mfg. Company	281
Palmer Mfg. Co.	461 A
Paragon Electric Co.	315
Pennsylvania Furnace & Iron Co.	AGA Exh.
Petroleum Equipment Mfg. Co.	574
Petrometer Corp.	41
Pezzillo Pump Co., Inc.	615
Pilgrim Oil Burner Co.	447
Piqua Machine & Mfg. Co.	616
Pittsburgh Corning Corp.	235
Pittsburgh Equitable Meter Div.	671
Plibrico Jointless Firebrick Co.	35
Plumbing & Heating Journal	505
Preferred Utilities Mfg. Corp.	60-61
Quaker Mfg. Co.	300-302
Quiet-Heet Corp.	654
Radiant Utilities Corp.	606
Ralph Supply, Inc.	573 A
Randall Graphite Bearings, Inc.	537-538
Ray Oil Burner Co.	214-216
Raytheon Mfg. Co.	435-436
Redmond Co., Inc.	485-486
Refractory & Insulation Corp.	310
Reif-Rexoil, Inc.	423-424
Research Products Corp.	603
Reynolds Metals Co.	554-555
Rheem Mfg. Co.	64-65-68-69
Richfield Mfg. Corp.	610
Richmond Radiator Co.	52-53
Ridge Tool Co.	622-623-624
Roberts-Gordon Appl. Corp.	257-259-261
H. M. Robertson Co.	672-673
Rome Turney Radiator Co.	499
F. C. Russell Co.	429-430-431-432
S.O.S. Products Co., Inc.	443-444
Sampsel Time Control, Inc.	419
Sangamo Electric Co.	667
Sarco Co., Inc.	80
Schnacke, Inc.	566
Schwitzer-Cummins Co.	459-460-461
Scott-Newcomb, Inc.	350-352
Scully Signal Co.	676-677
Selectrol Eng. Co.	668
Servel, Inc.	564-565
Shafco Distributing Corp.	674-675
Sheet Metal Worker	505
Skuttle Mfg. Co.	464
F. A. Smith Mfg. Co., Inc.	491-492
H. B. Smith Co., Inc.	628-629
Smith Twin Tubular Boiler Co.	496
Snips Magazine	662 A
Sonners Burner Co.	AGA Exh.
Spence Eng. Co., Inc.	533 & 534
Spencer Heater Div.	255
V. E. Sprouse Co., Inc.	627
Standard Heater & Oil Eqpt. Co.	601 & 602
Standard-Yne Service, Inc.	646 & 647
Stedco Products	448
Steel Products, Inc.	604
Stewart Mfg. Co., Inc.	643
Stokol Stoker Co., Inc.	635
Super Electric Products Corp.	620
Surface Combustion Corp.	50-51-54-55
Swift Lubricator Co.	445
Syncromatic Corp.	342-344
Taco Heaters, Inc.	83-84
Tal Bender, Inc.	468
Taylor Forge & Pipe Works	312-314
Telechron, Inc.	613
Tennessee Coal, Iron & Railroad	311-313
Thatcher Furnace Co.	26-27
Thermomatic Corp.	7-15
H. A. Thrush & Co.	421-422
Timken Silent Automatic Div.	76-77
Tinnerman Products Co.	334-336
Trion, Inc.	506
Triplex Htg. Specialty Co.	666
Turnbull Heating Co.	519-520
Tuttle & Bailey, Inc.	425-426
United Heating Ind., Inc.	446
U. S. Air Cond. Corp.	497-498
U. S. Radiator Corp.	217-219-221-223
U. S. Steel Corp.	311-313
V. & E. Products, Inc.	326
Vibration Eliminator Co.	482
Viking Mfg. Corp.	21-22
Vinco Co., Inc.	477-478
Volcano Burner Corp.	449-450
J. H. H. Voss Co., Inc.	607-608
Vulcan Radiator Co.	415
Walton Laboratories, Inc.	437-438-439
Waterfilm Boilers, Inc.	36-37
Waterman-Waterbury Co.	20
Watson-Stillman Co.	387
Weil-McLain Co.	508-509-510-511
H. Wetstone Oil Burner Co.	521
Whale Products Corp.	410
White Mfg. Co.	540
White-Rodgers Electric Co.	7-15
Wilson & Co., Inc.	323
H. A. Wilson Co.	207
L. J. Wing Mfg. Co.	34
Worthington Pump & Mach. Corp.	30-31-44A-45
XXth Century Htg. & Vent. Co.	7-15
York Corp.	74-75
York-Shipley, Inc.	358 to 374
Yula Water Heaters, Inc.	619

British Decide Against Mass Produced Oilheating

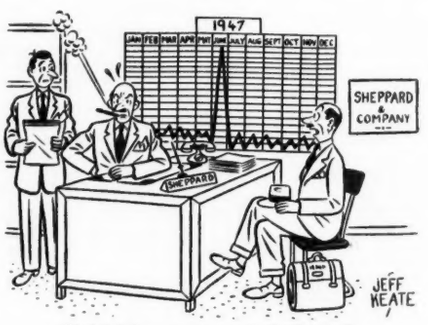
PROPOSALS for mass production of oil space heaters—to warm freezing Britishers this winter—has been opposed by the Ministry of Fuel and Power. Reasons advanced are lack of steel and oil. All the oil used for heating will be directed to those industrial plants which promise best results and new conversions to oil are unlikely, thanks to the fact that entire incoming oil supplies have been more than already distributed. Interesting plan is to mix heavy fuel oil with inferior dross coal burnt at power stations.

The plan for cheap mass produced heaters has been turned down by Mr. Hugh Gaitskell, Minister of Fuel and Power, as the marketing of more oil-heaters is not practicable because of the shortage of kerosene.

This was announced in a letter from him to Mr. Raymond Blackburn, M.P., chairman of a sub-committee of the Parliamentary and Scientific Committee which made the suggestion in an interim report on coal utilization submitted to Mr. Gaitskell's predecessor, Mr. Shinwell, last June. The report was unanimously adopted by the main Committee, consisting of scientists and members of both Houses of Parliament.

Conversion from coal to oil burning already carried out or authorized represented the maximum the Minister could accept having regard to the quantity of oil which could be assigned for the purpose.

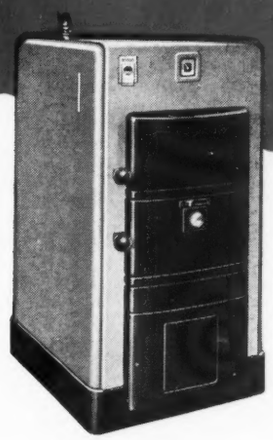
An experiment is being undertaken using heavy fuel oil to upgrade the slack coal burned at three power stations in the country. If this is successful, output should be increased when additional fueloil became available.

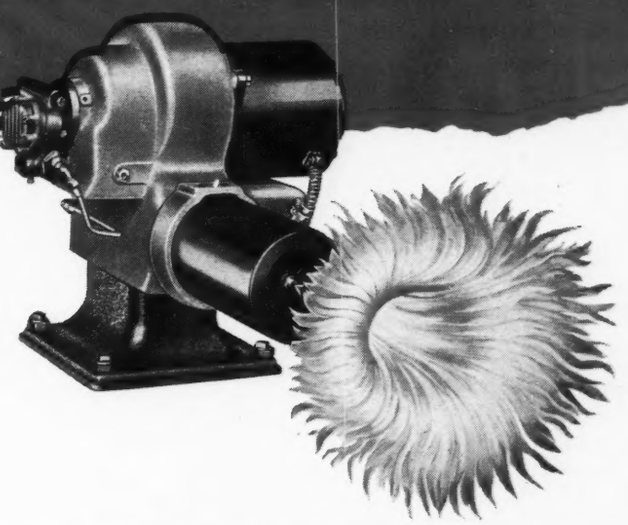


"I didn't know you were in the hospital last year Sheppard—what month was it?"

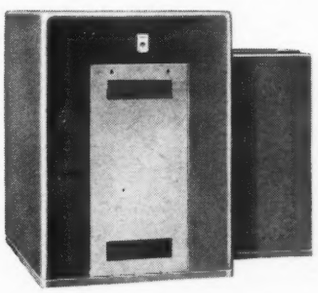
A Real Sales Builder

backed by proven performance

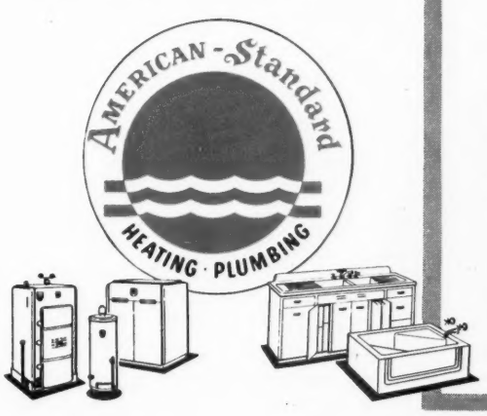




SEVERN Boiler. For small or medium sized homes. Operates economically with the Arcoflame or any other good oil burner. Scientifically proportioned air-tight combustion space burns oil efficiently without waste. Extra large top nipples placed partially below water line permit use of built-in tank or tankless type water heater. Permanent iron-to-iron fit of all sections and flues prevents infiltration of air or escape of odors. Burner may be installed either in front or rear.



WESTMORELAND Winter Air Conditioner. Brings the comforts of automatic oil fired heating to homes of virtually any size. It is designed to perform as a completely co-ordinated oil heating unit with the Arcoflame Oil Burner, or to give efficient service with any other standard pressure atomizing burner. Made in 6 sizes with capacities at the register ranging from 105,000 to 330,000 Btu.



ARCOFLAME OIL·BURNER

by AMERICAN-Standard

■ The Arcoflame is a great favorite with families who heat with oil because of its operating efficiency and economy. Noted for its fuel-saving "Sunflower" flame, the Arcoflame features such outstanding engineering developments as the Turbometer which meters and whirls the air into the combustion chamber to give clean and complete combustion . . . the Flo-Stat that regulates the oil flow . . . the Arco-Mute Tube that carries the correct amount of oil to the nozzle . . . and the Flame Stabilizer which permits precise adjustment and regulation of burner flame while burner is in operation. With capacities ranging from 1 to 7 gallons per hour, the Arcoflame burns low cost No. 2 or No. 3 oil. For further information about the Arcoflame Oil Burner and the complete line of American-Standard oil fired heating equipment, including the units shown at the left, contact your Wholesale Distributor. **American Radiator & Standard Sanitary Corporation,** P. O. Box 1226, Pittsburgh 30, Pennsylvania.

AMERICAN-Standard

First in Heating and Plumbing

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, for all fuels—Water Heaters—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships and Railroads.

Automatic Heating In Small Cities

OILHEATING DEALERS IN smaller cities have given us estimates of the number of oilburners, stokers and gasburners installed in their community during 1947.

Most of the figures are given in round numbers, and obviously are not based on exact knowledge, but since these dealers are active every day in their markets they can be expected to have a fairly good idea of what goes on.

Where more than one dealer reported from a particular town the estimates were averaged. The larger the city, the less chance for the dealer's estimates to be accurate.

	Oil-burners	*Stokers*	*Gas Burners*
MAINE			
Augusta	100	..	..
Norway	100	0	0
Wiscasset	50	..	..
Portland	1000	25	..
Biddeford	400	..	0
Bangor	500	50	..
Auburn	300	10	4
Waterville	130	..	0
NEW HAMPSHIRE			
Goffstown	100	..	..
Laconia	200	0	0
Colebrook	95	..	5
Manchester	1500	200	200
Nashua	500	0	50
Dover	600	4	10
VERMONT			
Brattleboro	142	33	2
Vergennes	65	6	..
Burlington	400	50	0
Barre	120	10	0
Lyndonville	76	0	2
Rutland	550	..	..
MASSACHUSETTS			
Gloucester	150	10	10
Salem	600	2	200
Lynn	1000	..	..
Needham	240	1	23
Quincy	1000	25	50
Newton Center	900	30	200
Concord	150	2	10
Maynard	360	..	..
Wakefield	200	..	..
Peabody	200	..	..
Lowell	1766	..	..
Lawrence	1500	68	133
Haverhill	700	25	100
Andover	115	..	12
Merrimac	1400	100	50
Newburyport	200	..	..
Springfield	2500	25	500
Worcester	2250	100	400
Southbridge	200	..	..
Taunton	600	..	..
Falmouth	200	..	50
Colrain	4	0	0
Avon	25	..	..
RHODE ISLAND			
Pawtucket	500	15	50
Newport	500	..	..
CONNECTICUT			
Bridgeport	1700	50	100
New Haven	6000	12	100
Waterbury	300	50	25
New Britain	650	5	5
Meriden	1000	2	0
Simsbury	150	..	..
Hartford	3500	5	10
NEW YORK			
Ithaca	200	10	30
Plainville	700	..	400
Earlville	100	0	0
Watertown	400	..	..
Nyack	100	..	..
Kingston	425	8	..
Central Valley	35	0	0
Beacon	65	..	12
Saranac Lake	200	..	..
Champlain	60	2	0
Malone	100	6	0
Buffalo	3500	25	4000
Albion	600	40	5
Wilson	50	..	..
Rochester	2000	500	500
Syracuse	1800	25	50
Ilion	1500	..	..
Rome	800	50	..
Amsterdam	800	20	..
Schenectady	1500	..	..
Albany	567	50	50
Central Square	50	0	0
Troy	450	..	..
Oswego	200	100	250
Binghamton	300	..	30
Hoosick Falls	70	2	0
Tuckahoe	5000	..	..
White Plains	100	10	15
Mamaroneck	100	0	50
Rye	150	0	90
Mineola	400	..	..
Copiaque	300	6	2
Bellport	2000	50	0
Patchogue	100	50	75
Brooklyn	55000	5000	15000
Bayside	4500	..	..
Staten Island	2967	..	..
NEW JERSEY			
Runnymede	50	..	..
Merchantville	650	..	15
Trenton	400	..	..
South River	300	0	0
Woodbridge	330	..	..
Princeton	300	10	50
Bound Brook	150	3	4
Pitmon	90	1	..
Avenel	175	15	0
Atlantic City	1000	..	600
Camden	600	25	150
Newark	2000	250	..
Jersey City	2500	..	..
Union City	800	..	200
Hoboken	500	10	100
North Arlington	800	5	20
Little Ferry	200	..	..
Ridgewood	250	..	..
Ridgefield Park	200	0	0
PENNSYLVANIA			
Pittsburgh	2250	5000	3750
Erie	473	5	25
Reading	792	12	250
Sunbury	100	12	..
York	1800	20	35
State College	200	10	0
Chambersburg	350	35	0
Lewistown	350	24	5
Harrisburg	1500	0	1000
Schillington	1000	15	200
Bloomsburg	300	15	0
Stroudsburg	120	12	0
Easton	900	33	175
Philadelphia	17500	75	5200
Wallingford	500	50	0
Upper Darby	2000	100	100
Pottstown	450	25	0
MARYLAND			
Baltimore	8000	133	1333
VIRGINIA			
Richmond	1500	350	1550
Fredericksburg	150	25	0
Burkeville	125	..	..
NORTH CAROLINA			
Henderson	100	20	..
Hendersonville	125	50	20
Raleigh	583	75	40
Greensboro	1200	150	..
Asheville	400	150	0
SOUTH CAROLINA			
Charleston	125	..	30
Wallertown	15	0	10
GEORGIA			
Augusta	200	15	..
Savannah	100	..	..
Fort Valley	4	1	0
FLORIDA			
Miami	300	0	0
MICHIGAN			
Detroit	7900	500	..
Port Huron	350	50	75
Ypsilanti	100	15	0
Monroe	300	100	0
Inlay City	20	4	6
Battle Creek	500	150	0
Adrian	250	75	300
New Haven	80	4	..
Houghton	150	130	0
OHIO			
Cincinnati	2500	250	..
Columbus	200	..	4000
Dayton	1200	200	1000
Springfield	250	40	..
Middletown	600	15	200
Mt. Vernon	160	15	75
Kinsman	25	4	..
Canton	300	150	500
Youngstown	1000	..	..
Dover	100	..	..
Berea	70	10	100
Bryon	35	15	45
Jamestown	25	0	..
Tiffin	100	100	100
INDIANA			
Indianapolis	1288	138	0
Fort Wayne	1033	83	200
Columbia City	60	1	0
Hobart	..	..	0
Logansport	125	..	3
Delphi	150	10	0
Lafayette	50	..	0
Geneva	15	..	0
Terre Haute	200	400	150
Evansville	500	400	0
Gary	500	50	20
ILLINOIS			
Chicago	8000	..	..
Evanston	250	..	0
Kankakee	200	70	10
Springfield	200	..	..
De Kalb	300	100	20
Freeport	250	50	20
Naperville	100	..	0
Elgin	300	50	0
Road Lake	500	25	0
Princeton	55	20	30
Monticello	25	10	0
Oaklawn	200	20	0
WISCONSIN			
Milwaukee	3250	500	100
Madison	200	50	20
Oshkosh	400	25	40
Monotowoc	350	75	10
Barron	25	3	7
Superior	20	..	75
Cameron	14	..	..
Waterford	30	6	..
Iola	15	1	..
Mouston	100	3	..
La Crosse	500	50	..
Mineral Pt.	35	6	0
Racine	300	50	25
Edgerton	100	..	0
Sheboygan	350	25	..
Sussex	12	2	0
Eagle River	40	..	..
Lake Mills	25	3	0
Delavin	50	20	30

NOW IT'S QUIET...ITS MOTOR RUNS COOL AGAIN TORRINGTON VAIRIFIED* AIR IMPELLERS

IMPROVE PRODUCT PERFORMANCE

A very noisy unit — a badly overheated motor — these were problems on which a window ventilator manufacturer requested assistance from Torrington's Laboratory.

Tests of the unit soon disclosed that while the manufacturer had the right diameter of fan blade, and the air delivery he desired, he had not provided sufficient power — the motor was heavily overloaded.

A variety of motors and fan blades were tested in all possible combinations, and our recommendations made. The manufacturer adopted one which resulted in a substantial increase in air delivery with a slight *decrease* in watts consumed. He held in reserve another for use of a slower motor with a deeper pitched blade which would have greatly reduced both power and noise, with only a modest sacrifice in air delivery — pending availability of motors.

The time to get the greatest value from the advantages of Torrington Air Impellers and the engineering experience behind them is *in the early stages of product design.* Ask us to consult with you now. There is no obligation. Torrington sales engineers are located in all principal cities.

Vairified . . . aerodynamically designed for maximum operating efficiency with quietness; guaranteed to perform as rated under NAFM and NEMA Test Code conditions; hand gauged for uniform contour, alignment and balance. The Torrington Manufacturing Company.

THE TORRINGTON MANUFACTURING COMPANY, TORRINGTON, CONNECTICUT

	Oil-burners	Stokers	Gas Burners
Ashland	60	30	0
Portage	200	25	0
Menasha	300	50	0
MINNESOTA			
St. Paul	4000	256	0
Alvarado	25	1	0
Kelsey	40	0	0
Franklin	13	..	3
East Grand Fork	200	50	0
Austin	25	..	0
Brainerd	40	20	0
Olivia	75	0	0
Grand Rapids	200	4	..
Tracy	35	3	0
Willman	125	4	1
Hutchinson	35	8	..
IOWA			
Conrad	10	3	..
Washington	40	5	28
Ames	43	35	0
Muscatine	35	25	40
Mason City	150	25	75
Waterloo	700	125	100
Sioux Center	150	5	0
Red Oak	60	2	80
Sioux City	1000	10	100
Cedar Rapids	1000	50	200
MISSOURI			
Salem	75	12	6
Springfield	1000	12	300
Pleasant Hill	3	2	2
Columbia	100	10	10
KANSAS			
Topeka	120	..	..
Wilson	6	2	18
NEBRASKA			
Sidney	35	6	5
Omaha	2850	..	..
Scotts Bluff	50	2	200
Schuyler	100	0	100
SOUTH DAKOTA			
Lake Preston	50	2	2
Woonsocket	34	1	0
Mitchell	250	100	60
WASHINGTON			
Olympia	464	12	4
Bellingham	240	50	0
Longview	300	..	..
Hoquion	400	0	0
OREGON			
Portland	5833	233	..
Ashland	40	..	..
Klamath Falls	1000	3	50
Hood River	300	10	0
Salem	750	..	..
Bend	40	6	20
Milwaukee	100	..	..
CALIFORNIA			
Placerville	50	..	..
Fresno	10	..	..
Lodi	50	0	150
Bijou	12	0	2
San Rafael	50	..	1000

Public Relations Program Swings To Conservation

APPROXIMATELY A MILLION DOLLARS is to be spent in the next few months to teach the American public how to conserve all forms of petroleum products according to a recent announcement by the American Petroleum Institute. Its present public relations campaign is to be sidetracked for the time being, in order to throw all energies and funds of the Institute's broad scale public relations organization into high gear on the new assignment. A study of the half-dozen advertisements already prepared indicates that they will be definitely constructive to petroleum and specifically to oilheating in the long range, rather than destructive as might have been feared.

Their general tone carries the impression that the public has become so enthusiastic about all forms of petroleum that it is demanding more and more of the various products at a rate of acceleration so great that it has the industry gasping for breath. In proposing conservation methods on both motoring and oilheating the approach is that the oil industry is delighted to have folks so enthusiastic about its products and that if they will just mark time momentarily while we catch up with them, we can all go on happily thereafter. Anyone who studies the advertisement, and thus understands what the campaign is to be like, cannot be other than pleased with its implications. A special subcommittee has been formed to handle this phase of the public relations program.

Under the chairmanship of W. R. Huber, Gulf Oil Corporation, the other members are Ralph Chemplin, Ethel Corporation; Conger Reynolds, Standard Oil Co. (Indiana); Richard Rollins, Atlantic Refining Co.; and H. L. Curtiss, Shell Oil Co.

"Live" Burner Exhibits At Heating Show

THE SPONSORS of the International Heating and Ventilating Exposition, scheduled for February 2-6 at New York's Grand Central Palace, have notified exhibitors that under certain conditions oilburners on the floor may be fired. Text of the announcement follows:

"Through the co-operation of the New York Oil Heating Association, the Board of Standards and Appeals of the City of New York ruled at a hearing on November 18th that it would be possible to operate oil burners at this Exposition under certain very definite provisions.

"One of the provisions is that the oil burners must be located in a space against the exterior walls of the building where a vent can be run directly to the outside air.

"If you are interested in operating, and can meet the above requirements, please advise us promptly, and we shall provide complete details of the regulations that must be met. A copy of the ruling with all provisions will be available in the near future."

Various Fuel Industries Unloading

RECENTLY oil men have been discussing the possibilities of getting part of the industry's industrial load shifted back to coal, believing that it is in the public's interest to maximize light product for the benefit of the mass population. Some other fuel industries are also trying to unload some business.

Florida newspapers in recent months have been carrying large space advertising by the Florida Power & Light Company, offering for sale all types of oil-heating equipment, particularly the equipment to use kerosene or No. 1 oil, such as floor furnaces, space heaters, closet-type central heating plants, and oilfired fireplace installations.

This utility had developed a large home heating load for electricity but now finds that it cannot handle any more, so would like to interest the public through the advertisements and through its own showrooms in heating with oil. Notice that none of the equipment items mentioned requires electric current in their operation.

A month ago the Long Island Lighting Company was buying large quantities of space heaters to burn oil, to lend to home owners whose gas heating supplies might fail. Now the same company, which is also an electric utility, is advertising in large newspaper space "Caution—Electric Heaters May Not Solve Your Heating Problem." They naturally expect that if both gas and oil are short on the Island this winter many families might use portable electric heaters.

The East Ohio Gas Company of Cleveland, advertising with full page space under the head "Natural Gas Emergency," is urging industrial users to operate equipment using gas only when necessary, at the lowest practical temperatures. They it says, "Use as much standby fuel as possible," and this of course means oil.

"Sure, I spent the money on a new hat instead of telling the plumber to put on a relief valve, so what?"

"MANY A TRUTH IS SPOKEN IN JEST" . . . .

Yes, your real competitor tomorrow may be the local milliner! Here's the point:—

According to the most conservative estimates, the productive capacity of industry is now *twice* as great as it was in the pre-war year of 1939 . . . and this, remember, is in terms of actual goods being produced; not inflated dollar value.

This is a mighty significant fact. It means that as soon as the backlog of pressing needs is satisfied there will be the wildest scramble for John Q. Public's dollar this country has ever seen. Don't ask us when this will come, but when it does come you will find that your *real* competitor won't be other heating men like yourself. Your real competitors—the fellows to fear—will be the high pressure boys in the automobile sales room, the radio store, the furniture shop and a raft of other Eager Beavers competing for John Public's always insufficient dollars.

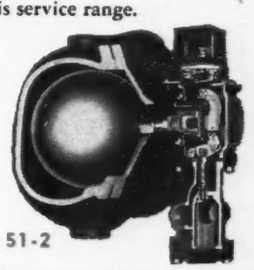
A lot of keen observers have said that in former competitive times the plumbing and heating industry has placidly stood back and taken a good trimming from these hard-hitting merchandisers in other fields. If this is so (and who can deny it?) then isn't it just about time to start the fight for your fair share of that dollar?

The real heat from other fields isn't quite on John Public yet. The orders for autos and other consumer goods are still easy to get and production hasn't yet caught up. So now is the time to surmount all handicaps and grab onto the glorious opportunity to give John and his wife equipment that is far more important to them than convertibles and mink coats!

Our own good example of something they need, is the devices that protect their boiler investment—McDonnell Boiler Water Feeders and Low Water Cut-Offs. Your jobber can now supply you with this equipment that should be on every steam boiler and many hot water boilers. Equipment like this can help you meet tomorrow's competition by beating it today. Ask for latest information, prices and sales helps.

No. 47-2

For the automatically fired boilers below 5000 sq. ft. capacity (maximum steam pressure, 25 lbs.) sell the No. 47-2 feeder—cut-off combination—the device that makes the boiler water level as automatic as the firing. The No. 47 (without low water cut-off switch) takes care of hand fired jobs in this service range.

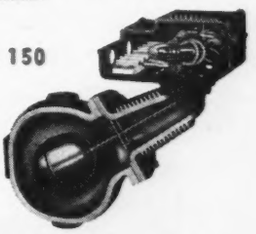


No. 51-2

For the larger boilers, above 5000 sq. ft. capacity (maximum steam pressure, 35 lbs.) sell the No. 51-2 for automatically fired jobs or the No. 51 for the hand-fired boilers.

No. 67

If they are not willing to go all the way by using the No. 47-2 or No. 51-2, sell them the McDonnell No. 67 Low-Water Cut-off (maximum steam pressure, 25 lbs.)—the most widely used, thoroughly proved cut-offs made!



No. 150

For the high pressure boilers (up to 150 lbs.) the No. 150 has opened up a vast and profitable market. You can use it as a low water cut-off, low water alarm, feed-pump control, or for any combination of these services. Ask for installation manual.

McDONNELL & MILLER, INC. 1310 Wrigley Bldg., Chicago 11, Ill.

Your Jobber Stocks These

Doing One Thing Well

McDONNELL *Boiler Water Level Controls*

Avoiding a Starting "Puff"

GOOD burners well installed and well serviced rarely give unusual trouble. Still, a complete knowledge of burners covers every conceivable trouble.

Suppose a gun burner starts, sprays oil into the firebox a few seconds without lighting the oil, then starts giving a flame. The result can be described as a starting "puff."

Or consider this, which is less likely. With the burner wired for intermittent ignition, oil stops coming from the nozzle while the burner is running. The fire goes out. Before the controls stop the burner because of flame failure, oil starts spraying from the nozzle again and after a few seconds is lighted by a hot firebox. While the motor runs steadily, there may be a running "puff."

If a burner wired for intermittent ignition gives "puff" trouble, often it's best to switch to continuous ignition. This adds two kinds of protection. First, it avoids trouble caused by a control panel's failing to turn on the spark when the burner starts; even if the spark control switch in an old panel sticks open when the burner starts, there will be no spark failure with the ignition transformer in parallel with the burner motor. Second, with continuous ignition, the oil spray of the nozzle can start and stop while the burner motor runs steadily, and each time the oil starts spraying again it will light properly. Even with the pump pressure fluctuating greatly because a suction line leaks or a tank is running dry there will be no "puff."

When in doubt on an intermittent ignition installation, switch it to constant ignition. Also take every precaution against igniton failure or delay when the burner starts.

Of course, intermittent ignition is preferred by many experts who say they never have "puff" troubles. If you never have these troubles, you don't need constant ignition to cure them. Aside from safety considerations, constant ignition has certain advantages which certain experts emphasize, while intermittent ignition has other advantages which other experts prefer greatly.

fueloil & oil heat Short Short Article on Burner Service

Every burner service man, new or old at the business, should take this to heart: *Improper adjustment of the spark points of gun-type burners is by far the most important cause of troubles related to "puffs," ignition delay, and ignition failure.* The tips of the electrodes must be adjusted to be close to the oil spray; if they are entirely too far from the oil spray, the spark will not light the oil promptly when the burner motor starts. Remember that at times the house voltage may be lower than it is when you are testing the burner, and that then the spark is weaker than usual.

Equally important, the tips of the electrodes must not be in the oil spray from the nozzle. Oil striking the electrode tips will form carbon, and carbon on the tips is an important cause of spark failure and ignition delay.

Don't assume that the spark points are adjusted properly when you unpack a new burner. Check the setting of the tips for every new burner.

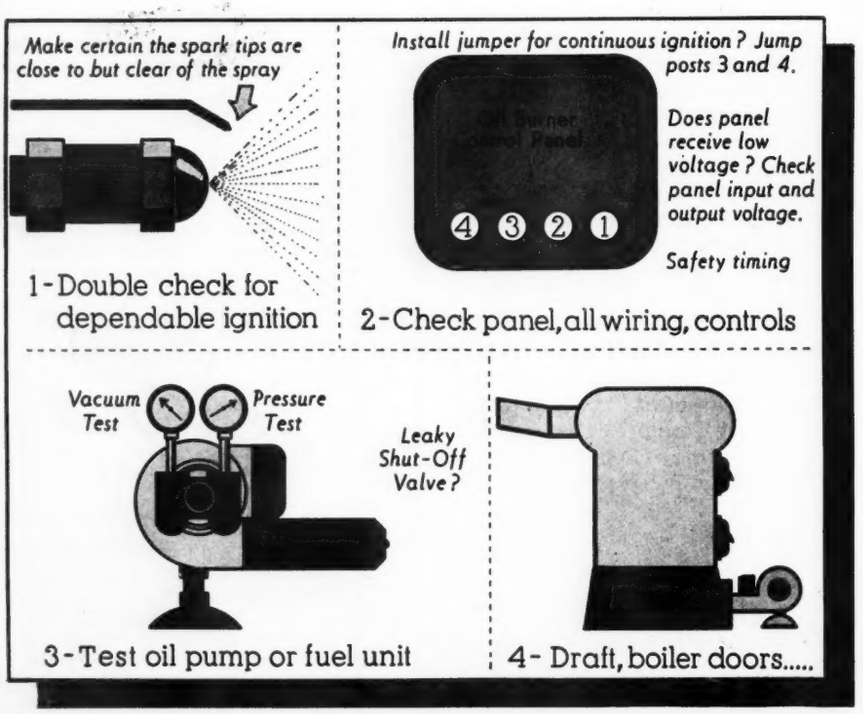
The dimensions for adjusting the electrodes are widely different for different makes and models of gun-type burners. For every burner model you service, obtain the manufacturer's exact instructions for adjusting the electrodes. It's best to measure distances when setting the points.

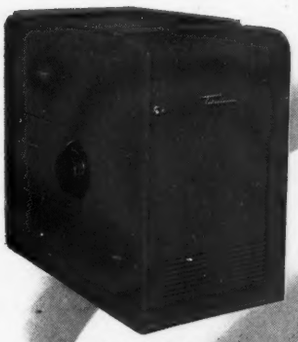
On a trouble job, check everything related to strong, instant ignition and steady, dependable flow of oil from the nozzle. A defective or worn fuel unit may give unsteady oil pressure. Use vacuum and pressure gauge tests to find out about this. Defective wiring and controls are an open invitation to trouble; they can cause low voltage for burner starting, and low voltage causes delayed ignition.

Other causes of trouble include:

1. Defective or overloaded house wiring.
2. Fueloil which contains water or gum or sediment, or which is very difficult to ignite in the burner.
3. Defective high tension leads or porcelain insulators.
4. A weak spark transformer.
5. Improper control panel operation.
6. Insufficient and varying draft which causes the flame to smother and go out with the burner motor running.

Many service experts believe that protection comes of having a flame observation door which can swing open easily in case of a slight "puff."


Make certain the spark tips are close to but clear of the spray
1-Double check for dependable ignition
Install jumper for continuous ignition? Jump posts 3 and 4.
Does panel receive low voltage? Check panel input and output voltage.
Safety timing
4 3 2 1
2-Check panel, all wiring, controls
Vacuum Test
Pressure Test
Leaky Shut-Off Valve?
3-Test oil pump or fuel unit
4- Draft, boiler doors.....



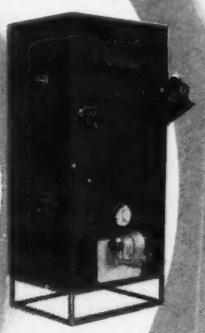
Mueller Series 50 Oil-Fired Winter Air-Conditioning Furnace—Available in three sizes. Equipped with pressure-atomizing burner.

Mueller Type 201 Oil-Fired Gravity Furnace—Two sizes, available with pressure-atomizing or vaporizing oil burners. Convertible to AGA-listed gas-fired unit.

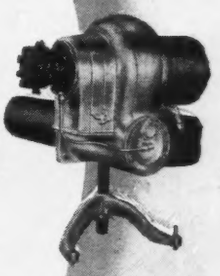
Mueller Type 202 Oil-Fired Winter Air Conditioner — Type 201 plus forced-air circulating and filtering unit. Available with pressure-atomizing or vaporizing oil burner. Also convertible to AGA-listed gas-fired unit.

Mueller Type 209 Oil-Fired Winter Air Conditioner — Vertical design for basement and utility room installation. Available with pressure-atomizing or vaporizing oil burner. Blower assembly mounted in exclusive Roll-a-Drawer (patent applied for).

You deliver supreme comfort and satisfying economy for any home



Mueller Series OH-57 Oil-Fired Unit Heater — For industrial applications. Equipped with pressure-atomizing burner.



Mueller Type 450 Oil-Fired Conversion Burner — Pressure-atomizing type burner. Range of nozzle capacities from one to five gallons.

...when you sell the complete Mueller Climatrol oil-fired line

Selling Mueller Climatrol equipment has plenty of advantages. First and foremost is the *complete* line of oil-fired equipment you handle. You can meet the exact requirements of any customer for any size home.

Yes — Mueller Climatrol fills the bill every time — builds extra profits for you — gives the homeowner years of satisfying, economical comfort!

Your customers know the nationally advertised Mueller Climatrol name — know that every Climatrol is backed by Mueller's 91 years of experience. Sell Mueller Climatrol — the *complete* line of oil-fired equipment. It really pays! Write for bulletins today. *L. J. Mueller Furnace Co., 2009 West Oklahoma Avenue, Milwaukee 7, Wisconsin.*

Visit the MUELLER CLIMATROL display in Space 405, National Oil Heat Exposition — Coliseum, Chicago, April 5-8.

MUELLER Climatrol

REG. U. S. PAT. OFF.

F-37

Majors Raise Crude Bids; Distillates At Retail High

DISTILLATE HEATING OIL retail prices hit a new high on December 15, as the result of recent increases in offers by major oil companies for crude oil. No. 2 heating oil ranged from 20.5 cents in certain tight areas of the Middle West to 11.8 cents charged by some majors selling direct in eastern markets. Average price of top gravity crude was $2.65 a barrel, the highest since 1920.

The latest price advance was touched off by Sun Oil Company's increase of 50 cents a barrel in the price they pay for crude. It was explained that the increase was made necessary because of premium payments over the posted price by some competitors. The increase in the bid for crude was effective on November 28. Explaining the increase, J. G. Pew, Sun vice-president in charge of production said, "In recent months we have found it increasingly difficult to obtain crude oil for our refineries as the result of ever-increasing premiums which are being paid, directly or indirectly, by many of our competitors. We have refused to engage in this practice, as we always have dealt forthrightly with each of the 20,000 people from whom we purchase crude oil. As a result of this growing premium practice we have lost substantial sources of crude purchases. Even though we have been able to increase our own crude production by 20% the last year, we have been required for many months to draw on stocks to meet our regular obligations. Last month we were forced to reduce refinery runs for lack of crude oil."

Standard Oil Companies of N. J., California and Indiana immediately issued statements opposing the advance in crude prices, and stating that the increase offered by Sun would not stop the premium offers. Producers in Texas, Oklahoma and Louisiana set the night of December 3 as the deadline for other crude buyers to meet the higher offer, and most of the major companies fell in line. Standard Oil (N. J.) resisted about a week and then met the increase.

Robert G. Dunlop, president of Sun, issued a statement to the Senate Small Business Subcommittee on December 2 saying that the company was willing to absorb the 50-cent a barrel increase. He said his company "will not initiate any price increases for petroleum products," but added that "if prices for products are increased, we may have to follow to protect supplies for our customers."

Standard Oil Co. (Ohio) met the increase for crude oil on December 8, and immediately announced that its prices for residual oils would be advanced 1¼ cents a gallon and all other products would go up 1½ cents. A. A. Stambaugh, sales manager for Ohio, explained that the company buys 70% of its crude requirements and now is paying 22% more for crude than it did ten days before.

Socony-Vacuum increased all product prices 0.9 cents along the Atlantic Seaboard on December 15. At the same time Standard of Indiana increased gasoline 1.5 cents, kerosene and distillates 1.3 cents, and residual oils 1 cent in its 11-state territory in the Middle West. Deep Rock on December 15, increased gasoline prices 1.5 cents and distillates 1.8 cents in its 9-state territory, and other suppliers were quick to meet the advance.

Standard of New Jersey followed with a price increase of 1.6 cents on heating oil, December 22, and also raised gasoline 1.1 cents, kerosene 1.7 cents, and residuals 46 cents a barrel.

Standard of California raised crude prices to producers 50 cents a barrel on December 27, following a 40-cent increase by Union Oil on December 1. Though Union did not increase product prices, Standard raised gasoline 1.8 cents, and light fuels 1.2 cents. General Petroleum (Socony) was expected to follow.

Faced with higher wholesale prices, retail dealers boosted their prices by at least the increase they received, and in some cases by a few points more to cover their margin requirements. Oil price became a matter of conscience, since few dealers had any fear that customers would leave to shop for heating oils in a tight market.

A stream of witnesses before the Senate Small Business Subcommittee previously had told the story of the dealers' troubles, and had firmly implanted the probability of a heating oil shortage in the public mind. Some witnesses had predicted that up to 20,000 homes in their areas would be cold by Christmas unless oil were allocated to them. One executive, who refused to be quoted, pointed out that these jobbers and terminal operators all were open market buyers who had no regular supplier. He was indignant that these men now wanted to be allocated oil that should go to others, pointing out that since the open market buyers had taken advantage of bargains in the past, they now should continue buying on the open market, even at a higher than posted price. Open market quotations on heating oil at the Gulf were reported to be up to 11.5 cents, making it 13.5-cent oil in North Atlantic ports.

It is understood that considerable money and effort will be put into a campaign to conserve fuel this winter. Major oil company advertising in the Middle West and East already has started on this theme, and it is understood that other publicity money earmarked for other purposes, soon will be turned to saving enough fuel by voluntary means to get the industry over this winter.

Petroleum Council Head Asks Most Tubular Steel

"ALL-OUT EFFORTS of the petroleum industry to expand productive capacity to meet increasing consumer demands for fueloil and gasoline are being seriously retarded for lack of a fair share of the steel now being produced in this country and by the numerous threats of Government controls," said Walter S. Hallanan, Chairman of the National Petroleum Council.

Recently before the House Interstate and Foreign Commerce Committee, investigating the oil situation, Mr. Hallanan said, "The oil industry is going all-out in its efforts and is operating at full capacity today to meet the inordinate increase in public demand. More oil will be found in this country, but it will require large quantities of steel and other essential materials as well as an

you're invited, too

ROOSEVELT HOTEL
NEW YORK
FEB. 2 to 6

. . . to J. L. GILLEN CO'S "shin-dig" and *new product* preview

When you want to get away from the crowds at the International Heating & Ventilating Exposition, drop in on us at Room (Inquire at Information Desk), Roosevelt Hotel. Just an informal get-together and a special preview of new product improvements. Come early. Stay late. Relax and enjoy yourself.

GILLEN

J. L. GILLEN CO.
204 E. HIGH ST., DOWAGIAC, MICH.

fueloil & oil heat

adequate price to cover the higher costs of deeper drilling and more intensive exploration."

He said, "The oil industry will be called upon to expend between 4 and 5 billion dollars in the next few years to keep its house in order. There is no other source for this vast sum except industry's profit margin, either current or potential."

Mr. Hallanan said, "The effects of the steel shortage are graphically illustrated by the fact that the total production of steel tubular goods is up 43% over the average for the five pre-war years. The supply of those goods to the oil industry has increased only 2% in the same period. Whatever the reason, the fact remains that the oil industry has not been able to obtain the materials necessary to expand its plant structure in ratio to the phenomenal increase in demand."

Boston Asks Gas Rate Increase to Raise Revenue

GAS RATE INCREASES were asked by the Boston Consolidated Gas Company of the Massachusetts Public Utilities Commission which would increase customers' monthly bills by an estimated 46 cents. The increase would increase revenue by little more than $2,000,000 this year, and would allow the compay an estimated return on invested capital of 4.53% against an estimated 1.72% under present rates.

Petrol Opens Refinery

PETROL TERMINAL CORP., independent oil company, with executive offices in Philadelphia, Pa., commenced operation of its refinery at Texas City, Texas, on December 13. According to E. M. Callis, president of Petrol Terminal Corp., the refinery, which is still incomplete, has been put into operation ahead of schedule in an effort to rush more fueloil into the Philadelphia, Baltimore, and Washington areas. The first shipments from the refinery are expected to reach Philadelphia around the middle of January.

Present facilities permit the refinery to process 27,000 barrels of crude a day, with production confined to motor fuels, distillates and residual oils. One hundred-octane gasoline also will be produced when installation of a 54,000 barrels a day topping unit is completed. All work on the refinery is expected to be completed by July, 1948.

Oil Exports Lower In First Quarter

AN EXPORT QUOTA of 12 million barrels of petroleum products as been established for the first quarter of 1948 by the Office of International Trade. This is down from 17 million barrels in the first quarter of 1947, but does not include 2,470,000 barrels of products for military use in occupied areas.

The kerosene export quota is 900,000 barrels, gas oil and distillate is 3,200,000 barrels and residuals total 1,800,000, or 49.2% of allowable exports. Motor gasoline and aviation gasoline about equal burning oils and blending agents complete the quota.

Since 1941 no export control has been applied to shipments to Canada, but talks now are under way to limit oil shipments to ease the domestic shortage.

Marine Oil Terminal Opens New Facilities In Chicago

NEW OIL STORAGE facilities, capable of handling 250,000 barrels capacity, has been announced by Marine Oil Terminal Co., a subsidiary of Consumers Petroleum Co., Chicago, Ill. Now in operation, the eight-acre plant will help improve the supply picture in Chicago.

Arne Feichtinger, *second from left, director of Seimens Elektriska Co., Stockholm, Sweden, during a visit to Ohio Electric's Cleveland factory. Others shown are: (l. to r.) Ernst Englander, president, Erba International Corp., exporters; Ohio sales engineer, Harold Keichel and treasurer, Henry Richard.*

Readers' Forum

NORTHERN STOKER SALES
Beaver Dam, Wis.

Editor:

In our experience with the dealers during last year, it is our belief that there are more poor installations turned out by poor workmen, and too many incorrect sizes being sold. Too much money is being charged for all kinds of heating that will reflect upon the industry in the future. Shortages of material is one factor we observe that is giving dealers a lot of trouble.

In line with most everything else these days, there is a large percentage of dealers charging as much as the traffic will bear, if they can get away with it. There is a dearth of good service men for heating plants and we believe there is entirely too much high pressure selling. In many cases a good repair and cleaning job will do the user just as much good as selling him a new plant and then not installing it well.

Too little attention is being paid to the education of the oil or coal user to conserve fuel. On the other hand, we do find some honest dealers trying to do the "square" thing for their customers.

As soon as the spending spree is over, there will have to be a downward trend in fueloil prices. Too many conversion burners are being sold and installed by novices and about 40% of the heat produced goes up the chimneys. Coal stokers have a black eye this year because of the extremely poor quality and shortage of stoker coal. The coal industry has sold any coal for stoker coal, regardless of chemical analysis of the fuel.

This entire letter may read like a calamity version of the industry, but it is not our intention to create that impression. You possibly know we are right about most of the statements at that.

C. W. STUMPF.

O. E. Dostal, formerly assistant works manager, has succeeded D. W. Boylan as comptroller, Eureka Williams Corp., Bloomington, Ill. Mr. Dostal joined Eureka January 1, 1944 after long experience with U. S. Rubber and Nash-Kelvinator in various accounting capacities.

ANOTHER ADDITION TO A DISTINGUISHED FAMILY

Now . . . A Complete New Line of NATIONAL Commercial STEEL BOILERS

Designed and engineered for the largest heating jobs where extra heating capacity and economical operation are prime considerations. National Commercial Steel Boilers are available in 16 sizes with SBI net ratings ranging from 2,500 to 35,000 square feet of steam radiation—these standardized sizes complying with Standard Practice Recommendation R157-37 of the United States Department of Commerce.

National Steel Boilers have been designed with particular attention to the needs of Automatic operation with stoker, oil and gas firing. Hence, this new National Steel Boiler embodies all the latest features desirable in an Automatically fired boiler. Too, hand fired boilers can be readily converted, after installation, to Automatic firing.

Check these features:

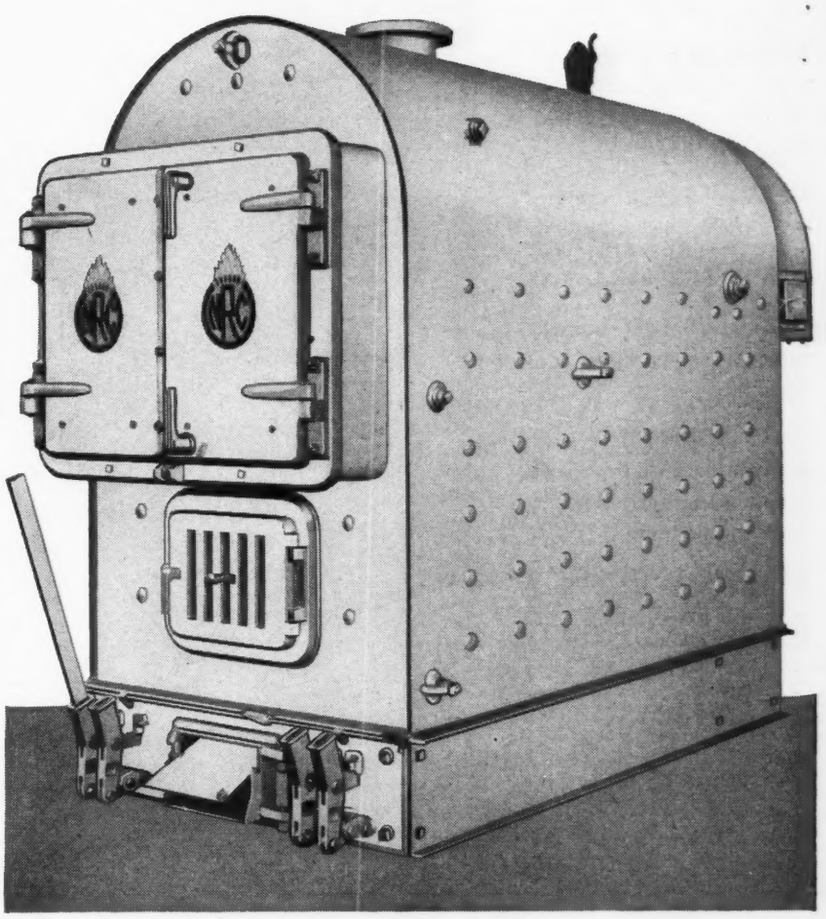
LONG, TROUBLE-FREE SERVICE from durable flange quality steel construction and Electrunite tubes. Design and construction meet or exceed the requirements of the Steel Boiler Institute Rating Code, and the American Society of Mechanical Engineers Boiler Construction Code. Each boiler is inspected and approved by a representative of The Hartford Steam Boiler Inspection and Insurance Company. Generous firebox proportions conform with the recommendations of the Stoker Manufacturers' Association.

FUEL ECONOMY from self-cleaning True-Arch Crown Sheet which prevents heat-insulating sludge from accumulating over hottest part of the firebox crown, maintaining maximum efficiency of heat transfer. Exterior surface of boiler shell finished with aluminum paint for heat conservation.

PLENTY OF HOT WATER—A wide selection of Indirect Hot Water Heaters available for year 'round supply of domestic hot water. Storage or tankless types for single and multiple heater installation. High grade brass and copper construction assures corrosion resistance, long dependable service.

UNUSUAL ACCESSIBILITY—Tight-fitting doors of generous size provide ease of firing, inspecting, cleaning. Detachable bottom plate on smoke hood gives access to rear end of tubes without disconnecting the breeching or removing the hood.

BE SURE TO VISIT OUR EXHIBIT
Booths 248—250—252—254
8TH INTERNATIONAL
HEATING AND VENTILATING EXPOSITION
GRAND CENTRAL PALACE, NEW YORK
FEBRUARY 2 to 6, 1948



For complete information, call your nearest NRC heating sales branch or write to The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania.

The NATIONAL RADIATOR Company

JOHNSTOWN, PENNSYLVANIA

fuel oil & oil heat

CHECK FIRST
with the finest
WINTER AIR CONDITIONING OIL FURNACE

WARMS - FILTERS
CIRCULATES
HUMIDIFIES

One more way General Automatic is building volume for dealers in protected territories.

•

COMPACT integrated unit.

THREE SIZES with heating capacities 100,000, 150,000 and 200,000 BTU's per hour.

HEAVY STEEL casing beautifully finished.

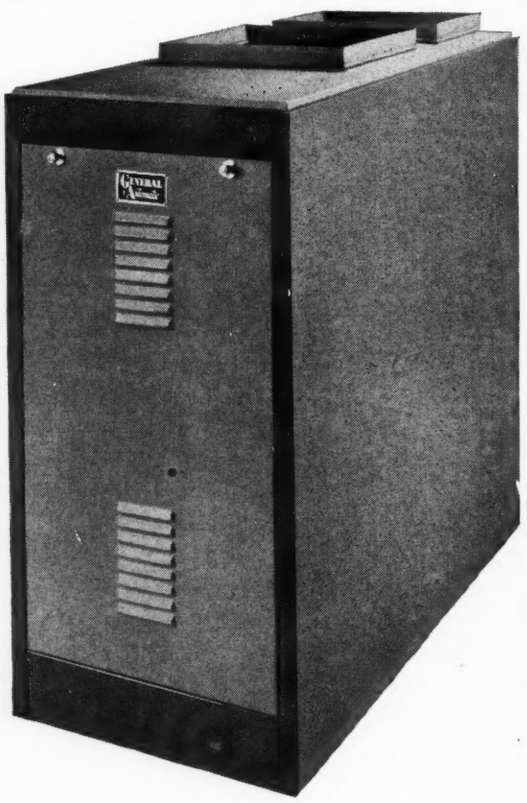
AMPLE SIZE blower fan!

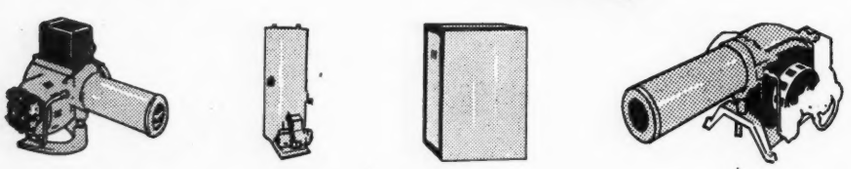
INCLUDES oil burner, furnace, blower, filters and controls.

EASY SERVICING with detachable oil burner unit flange mounted to front of heating chamber.

REASONABLY priced.

IMMEDIATE shipment.





GENERAL Automatic

. . . . . CHECKS FIRST WITH THE FINEST

GENERAL OIL BURNER CORP. 2300 SINCLAIR LANE BALTIMORE 13, MD.

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 20th.

Spade Featured As Speaker At Massachusetts Meeting

THE 149TH MEETING of the Massachusetts Oil Heating Association, Boston, Mass., was held December 15 and featured Herbert Spade, president, E. Robinson, Inc., Hartsdale, N. Y., as speaker. Mr. Spade, a recognized authority on oilburner service, installation and fueloil delivery, chose as his topic, "Burner Service Today."

Fred Beckwith, honorary secretary-treasurer, presented his usual discussion of industry news and problems. The meeting also voted to amend the Association's By-Laws to change the annual meeting from January to May. The change had been proposed to permit elected officers to continue to serve until the end of the heating season, rather than interrupting terms of office during January, as at present.

Wisconsin Dealers Begin Twenty-Sixth Year As Group

DECEMBER 1 marked the commencement of the twenty-sixth year of the existence of Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis. In a letter to members, W. J. Schroeder, beginning his sixth consecutive year as president, outlined a program of activity for the coming year. At the same time was issued a roster of appointments to nine regular committees of the Association and five committees, to supervise preparations for the annual diner rally, scheduled for early in February.

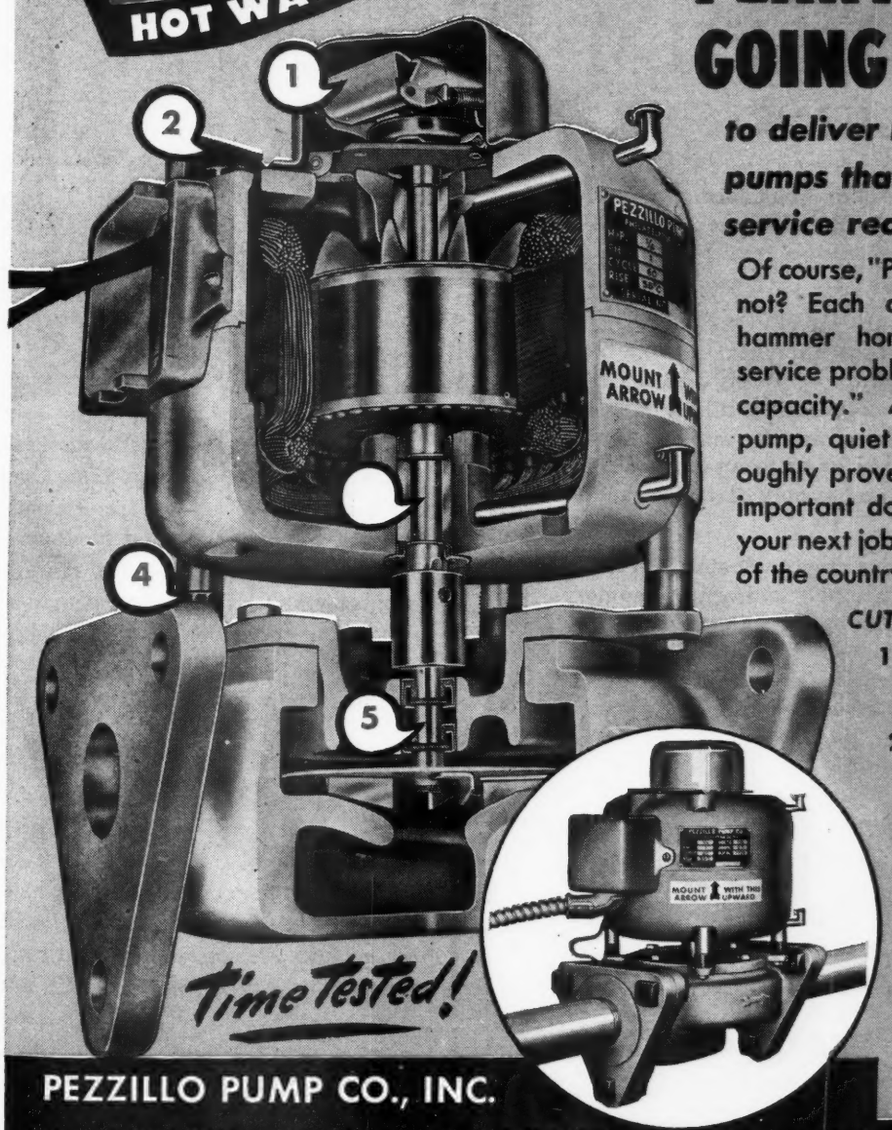
At a regular monthly meeting, held December 18, Robert Renwick, assistant general manager of Milwaukee's Better Business Bureau, discussed a proposed hearing before the Department of Agriculture, on the subject of unethical trade practices. The Association voted to request such a hearing, with the objective to promulgate a Code of Fair Practices.

The Board of Directors convened prior to the meeting and Santa Claus was on hand to distribute gifts at the conclusion of the session.

PLANT NO. 2 NOW GOING FULL BLAST

to deliver more of those amazing pumps that are breaking all service records coast-to-coast

Of course, "Pezzillo Pete" is proud! And why not? Each day brings new evidence to hammer home the PEZZILLO story—"no service problems—no stoppage—full-rated capacity." A beautiful, sweet-operating pump, quiet as a mouse—and now thoroughly proven in almost 50,000 tough and important domestic installations. Ready for your next job—and available through 80% of the country's leading jobbers.



CUT-AWAY ILLUSTRATION SHOWS:

1—EXTERNAL CENTRIFUGAL SWITCH Outside of the motor enables double-quick service.

2—IMPROVED OVERLOAD PROTECTOR with automatic reset. Has never failed!

3—SEALED OILITE MOTOR BEARINGS. Factory assembled. Needs no attention.

4—VIBRATION PROOF MOUNTING. Exclusive design. No vibration transfer to pipe.

5—IMPROVED PUMP-SHAFT SEAL ASSEMBLY. Only two major parts. Permanently lubricated.

PEZZILLO PUMP CO., INC.

PHILADELPHIA 32, PA. *IN CANADA*—The Ormont Co., Toronto 1, Ontario

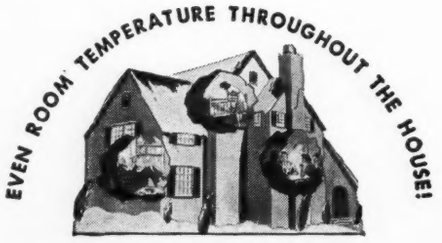
for economical quick heat!

KOVEN
WATERFILM
BOILERS

The heating dollar goes further with a KOVEN WATERFILM BOILER... because WATERFILM'S fast-steaming, fuel-saving features can be relied upon for years of efficient performance.

Whether you recommend WATERFILM for small homes, apartment houses or industrial plants, the effectiveness of this outstanding boiler is assured. Its patented construction, incorporating all the latest scientific improvements that cannot be duplicated by any other boiler, provides even temperatures in every room and an abundant supply of domestic hot water at all times.

The modern, high-styled jackets enclosing WATERFILM Boilers make them attractive to the many homeowners who demand a heating unit that will not only serve well, but look well. Made for automatic firing with oil, stoker or gas. Write today for a free copy of the illustrated booklet which gives complete details.



WATERFILM BOILERS, Inc.
A DIVISION OF L. O. KOVEN & BRO., INC.
154 Ogden Avenue, Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J.

New York Oil Heating Group Moves To Own Headquarters

HEADQUARTERS of New York Oil Heating Association, Inc., now is located at 29-98 41st Ave., Long Island City 1, N. Y., where the group has taken space in the Chatham Phenix Building. The offices were occupied during November. The Association is an integrated group, representing all branches of the oilheating industry in the Metropolitan New York area.

Matheson Speaks To Oregon Fuel Dealers

THE DECEMBER 11 meeting of the Oregon Fuel Merchants Association, Portland 4, Ore., featured an address by W. A. Matheson, executive vice president in charge of Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill. Quoting from the report of the American Petroleum Institute on their national study of oil supply, Mr. Matheson remarked, "During 1947 and 1948 the oil industry will invest more than four billion dollars for new and expanded facilities. Does that sound like America is down to its last barrel of oil?" API further contends that the West Coast statistical position appears to be satisfactory from the standpoint of supply and local demand. Best estimates foresee the industry meeting all potential demands, with the possible exception of residual fueloil.

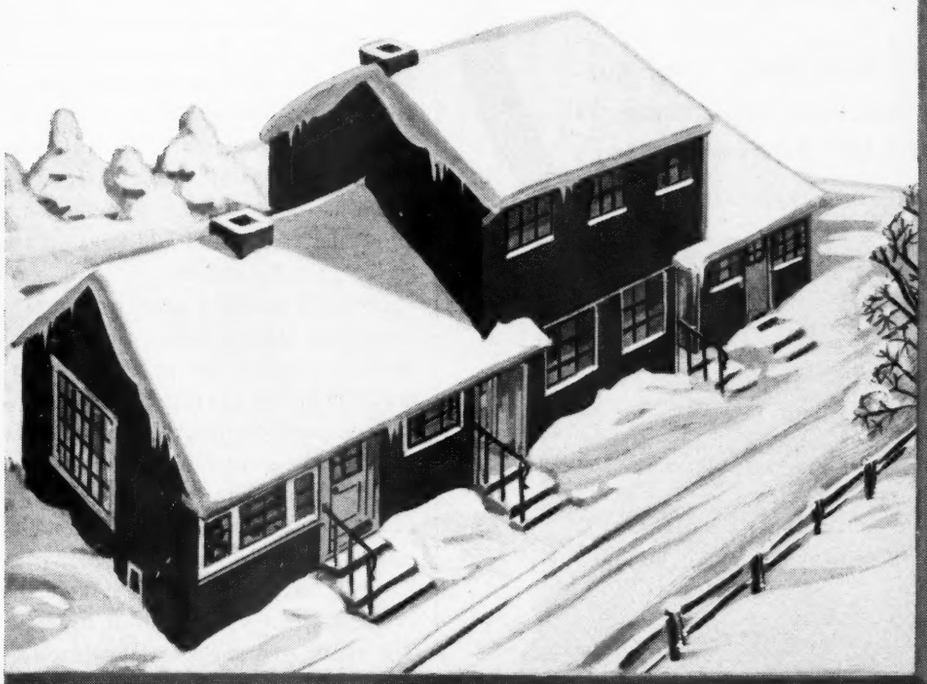
Other recent Oregon activities included a southern Oregon meeting held at Medford on November 21, at Klamath Falls on November 24, and November and December meetings held by Astoria members. At the latter a representative from the Portland Fire Marshal's office spoke on burner installations.

Annual Convention Held By Nebraska Marketers

OMAHA, Nebraska, was the site of the 27th Annual Convention held December 2 and 3 by Nebraska Petroleum Marketers, Inc. A business meeting held the morning of the second day elected officers and directors and adopted resolutions to establish policies for 1948. The meeting featured a ladies' luncheon and the annual banquet and entertainment.

Five speakers from the oil industry participated in a program which dealt

PORTRAIT of a customer

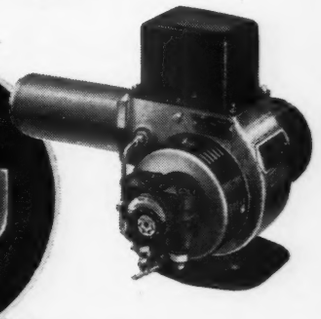


The typical QUIET MAY customer is more than an individual. It's a comfortable home surrounded by Winter . . . anywhere in the world.

The QUIET MAY Oil Burner delivers what everybody wants . . . dependable, carefree, low-cost comfort. It is **quality**-built by men with nearly a quarter-century of know-how.

Many homes in your community are ready for QUIET MAY Oil Burners. A dealership may be ready for **you** . . . write today.

OHI



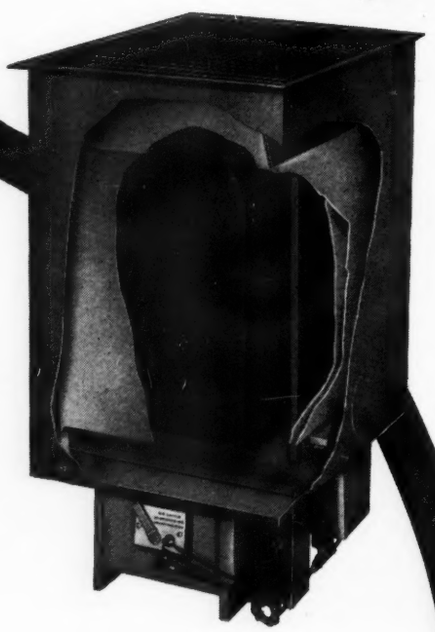
QUIET MAY OIL BURNER

MAY OIL BURNER division of Geratar May Corp., Baltimore 3, Maryland

fuelail & oil heat

PROFIT from the oil saving campaign!

Sell OIL SAVING H. C. Little Floor Furnaces as Ideal Low Cost Replacements for Inefficient Oil Space Heaters



Exclusive *Automatic*

Electric Ignition Control —No Low Fire or Pilot Stage—Burns Oil ONLY When Heat Is Required!

The typical oil heater is inefficient and not economical. Too much heat goes up the chimney; not enough into the house. If the heater has a pilot fire, that's all the worse. Your customers can't save oil when they burn it 24 hours a day!

Compared to inefficient oil space heaters, the highly efficient, economical H. C. Little oil floor furnace cuts heating costs 20% to 30%. This compact unit puts a large volume of heat into the house instead of up the chimney. It has no pilot light or low fire stage. With patented H. C. Little **electric ignition,** the thermostat turns the furnace on **only** when heat is required, then turns it off completely until heat is needed again. This is truly automatic operation! It's exclusive to H. C. Little in the oil floor furnace field!

You can make plenty of sales and profit when you show your customers how they can stop wasting oil and begin enjoying comfort with **maximum economy.**

H. C. Little BURNER CO.

Dept. I, San Rafael, Calif.

with current industry problems of crude production and supply, public relations, new products and continued need for sales effort.

Jersey Oil Distributors Have Conservation Leaflet

A LEAFLET, designed to be used as an envelope stuffer to accompany invoices, prepared by the Conservation Committee, Fuel Oil Distributors Association of New Jersey, Newark 2, N. J., contains 4 pages and is offered to all dealers on record at Association headquarters. Provision has been made to allow imprinting dealer names and addresses on the back page of the leaflet.

Prepared with the intention to make consumers care-conscious, the leaflet is written concisely, listing nine steps every householder can take to reduce fuel-oil consumption by individual users. Eight of the steps can be accomplished without expense to the consumer, such as, lowering ground floor shades at night, closing off radiators in unused rooms, lowering thermostat settings at night and avoiding settings above 70° at any time. The ninth step suggests installation of storm windows. A table shows per cent of fuel savings gained by various construction features.

Complete information on the leaflet's availability and prices, with imprinting, can be secured from A. W. Rich, executive secretary.

Univ. Of Illinois Studying Costs Of Heating, Cooling

A NEW COOPERATIVE research project to decrease the costs of combined winter heating and summer cooling installations for homes was announced recently by Dean Melvin L. Enger, director of the Engineering Experiment Station, University of Illinois. The first activity under this project will be an investigation of improving air distribution systems for all-year air conditioning. The object will be to reduce costs without sacrificing performance. Techniques, materials, and construction methods will be studied.

This problem of using one distribution system for a year around air conditioner is complicated by different volumes, velocities, and temperatures of air to be sent to the rooms of a home in opposite seasons. The new cooperative project is sponsored by the American Gas Asso-

YOU ARE ENTITLED TO AN EXPLANATION!

On October 1, 1947, we, voluntarily and unsolicited, terminated our sales agreement with General Filters, Inc., manufacturers of General Fuel Oil Filters, to become effective on January 15, 1948.

We are sincerely grateful to the hundreds of jobbers and burner manufacturers who have favored us with their orders for filters in the past; also, the many dealers who in turn have patronized our customers . . . and feel sure that they will welcome the filters which we will offer them after January 15, 1948.

WATCH THIS SPACE

We are convinced that our gratifying success throughout the sixteen eastern seaboard states is due primarily to the fact that our customers have become our friends; and our New Year's resolution is to strive even harder during the coming year to give complete satisfaction to our host of customer friends. The products we sell will be the best obtainable and our service must be of the same high quality. We take this opportunity of wishing you all health, happiness and prosperity throughout 1948.

ALSO NOW . . . Exclusive Representatives for Eastern States For Skuttle Furnace Humidifiers AND, Rochester Tank Gauges for New England States, Virginia, North & South Carolina.

PLEASE VISIT US — Booth No. 434, Skuttle Manufacturing Co., International Heating and Ventilating Show and Hotel Sheraton.

EOCO

JOBBER REPRESENTATIVES

STAINLESS STEEL NOZZLES
SERVICEMAN'S NOZZLE KITS
PRESSURE REGULATING VALVES
BRASS NOZZLE ADAPTERS
WIRE MESH STRAINERS
AIR CONES and STABILIZERS

William J. Oebler and Sons

Automatic Heat Devices

PHILADELPHIA, NEWARK, BOSTON

EASTERN FACTORY REPRESENTATIVES

619 ACORN STREET, PHILADELPHIA 28, PA.
790 BROAD STREET, NEWARK 2, N. J.
900 STATLER BUILDING, BOSTON, MASS.

? WATCH THIS SPACE

SIMPLE AS 1-2-3

KUT-A-SYZ

Couplings are fitted with detachable metal ends. Where couplings are to be installed or replaced, measure size required and simply cut the KUT-A-SYZ coupling with any ordinary hacksaw blade to desired length. Replace Metal Ends and the job is completed.

1—Measure Size Required

•

KUT-A-SYZ

Couplings are made of the finest quality oil-resistant rubber. They are available in any size from 2¼ to 8 inches. Specially grooved to engage the metal ends, they form a stable and securely gripped joint. The rugged coupling structure protects against rubber shearing.

2—Cut with Ordinary Hacksaw

SEND FOR DETAILS ON KUT-A-SYZ COUPLINGS

•

3—The Job is Completed

VIN'S

OIL BURNER PARTS SUPPLY CO.

3614 East Tremont Ave.
New York 61, N. Y.

Distributors for KUT-A-SYZ COUPLINGS

FULL LINE OF OIL BURNER SUPPLIES
ASK FOR CATALOGUE

ciation. Work will be carried on in the mechanical engineering department at the University by Stanley F. Gilman, special research assistant, under general supervision of Prof. Seichi Konzo and Prof. Ross J. Martin.

I-B-R Seeks To Stimulate Interest In Foundry Work

STIMULATION of interest in foundry work among students in schools and universities is one of the projects being undertaken by Institute of Boiler and Radiator Manufacturers, New York 17, N. Y. The Institute's general manager, R. E. Ferry, has written to universities and technical schools to find out what they offer in their curricula on foundry education and has asked for suggestions from the schools on how to stimulate a greater interest in foundry work as a career.

Akron Sheet Metal And Furnace Dealers Meet

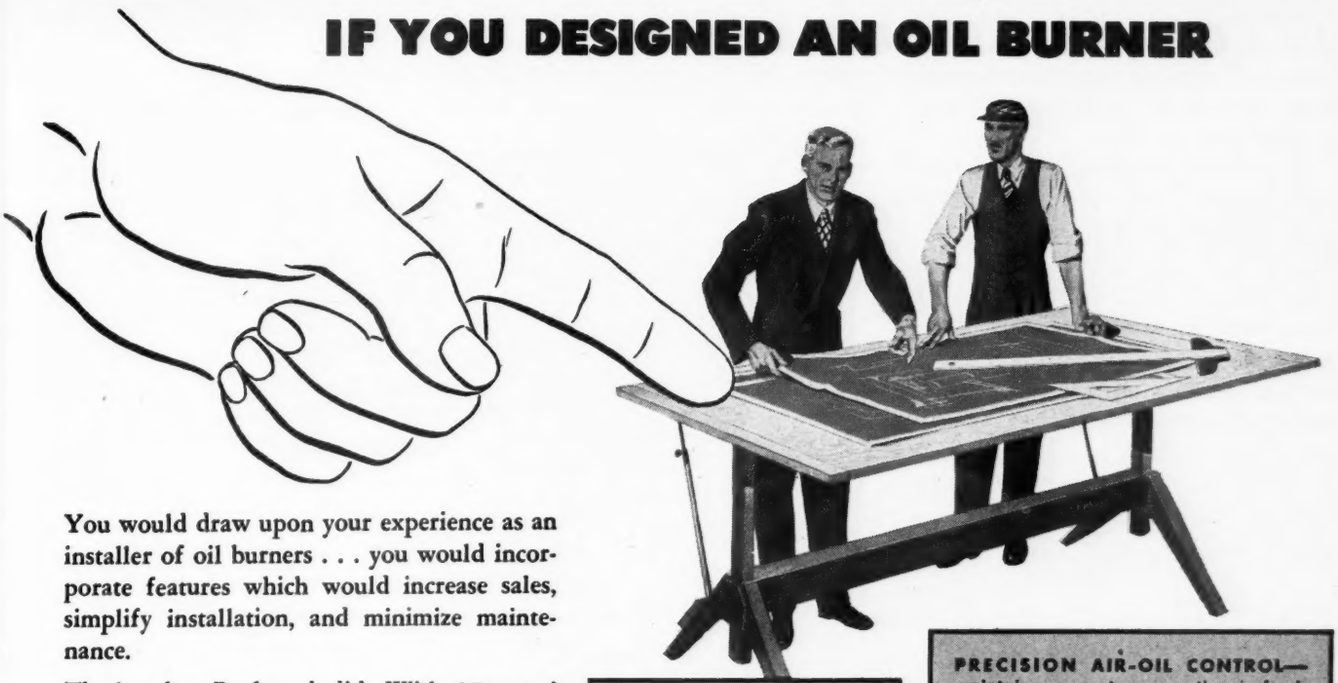
A JOINT MEETING, held December 2 at Young's Hotel, Akron, Ohio by Akron Sheet Metal & Roofing Contractors and Akron Furnace Dealers Association, was attended by sixty-four members. Paul E. Belcher, First National Bank of Akron, addressed the gathering on the Marshall Plan. A second speaker was J. D. Wilder, executive secretary, National Sheet Metal Contractors' Association, who discussed current problems, such as shortage of sheets, labor and unscrupulous competition. He outlined during his talk a few of the projects and plans of the national group.

ASHVE Committees On Panel Heating, Cooling

MEMBERS of American Society of Heating and Ventilating Engineers Committee on Heat Distribution Within and Behind the Panel met recently at the Research Laboratory, Cleveland, and initiated specific recommendations for the Society's planned program of panel heating research. L. N. Hunter, National Radiator Co., Johnstown, Pa., committee chairman, explained the recommendations as designed to determine experimentally heat distribution within and behind both concrete and plaster panel construction, as influenced by type, size and spacing of conductor, cover depth, temperature of heating

YOU *too would add these features*

IF YOU DESIGNED AN OIL BURNER



You would draw upon your experience as an installer of oil burners . . . you would incorporate features which would increase sales, simplify installation, and minimize maintenance.

That's what Preferred did. With 27 years' experience as dealer, installer and distributor, Preferred set out to design a burner with *plus* features. The result is Preferred's Horizontal Rotary-Type Heavy-Oil Burner, with a 5 to 150 g.p.h. capacity *and these 6 outstanding features:*

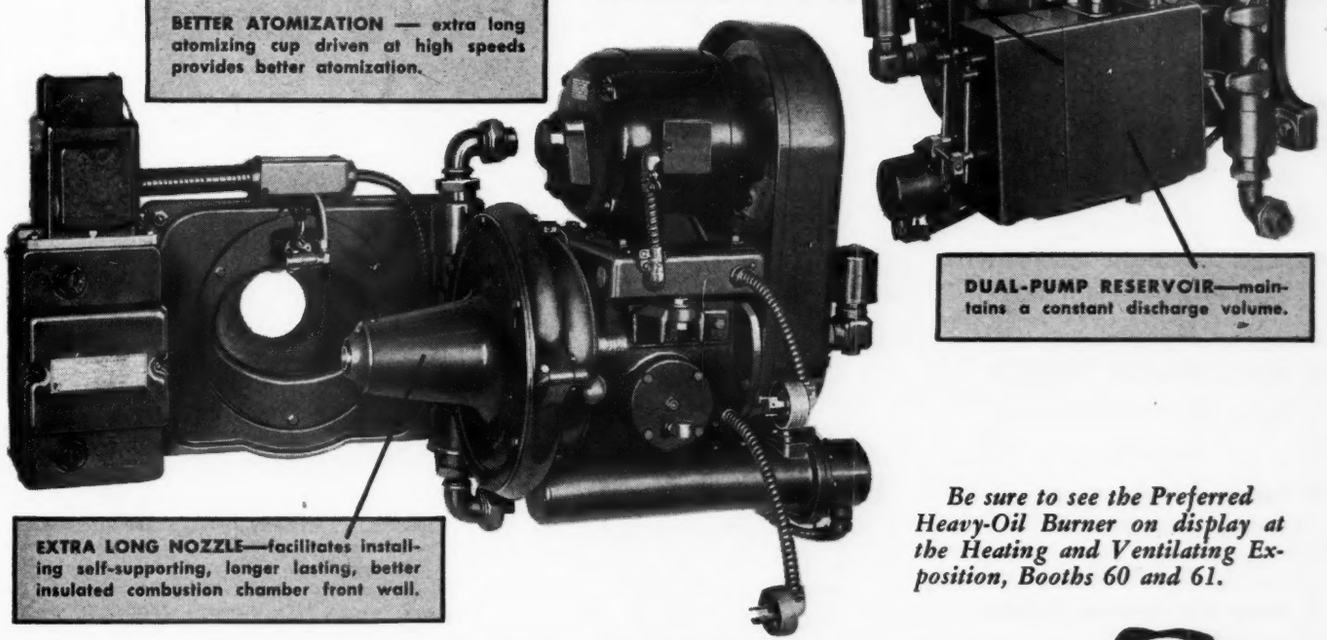
Bulletin 175 contains complete details. Write for your copy today.

HIGH-SPEED BELT DRIVE—provides higher cup speeds to atomize more completely the new heavy catalytic oils.

PRECISION AIR-OIL CONTROL—maintains accurate proportions of air and oil for most efficient combustible mixture.

PATENTED "VOLUVALVE" FUEL REGULATION—meters predetermined quantity of oil regardless of variations in temperature, pressure or viscosity.

BETTER ATOMIZATION — extra long atomizing cup driven at high speeds provides better atomization.



DUAL-PUMP RESERVOIR—maintains a constant discharge volume.

EXTRA LONG NOZZLE—facilitates installing self-supporting, longer lasting, better insulated combustion chamber front wall.

Be sure to see the Preferred Heavy-Oil Burner on display at the Heating and Ventilating Exposition, Booths 60 and 61.

PREFERRED UTILITIES MANUFACTURING CORPORATION, 1860 Broadway, New York 23, N. Y.

PR-163

PREFERRED UTILITIES MFG. CORP.

medium and other influencing factors. A survey of all known published data on the subject of effective heat output of panels was completed by the Laboratory staff, revealing that under identical conditions, stated heat outputs vary over a wide range.

The above committee is one of four such groups, each of which is covering a specific phase of the research program. The second group, headed by John James, Iron Fireman Mfg. Co., Cleveland, will consider Heat Transfer Between the Panel and the Space, and a third group, of which J. S. Locke, Minneapolis-Honeywell Regulator Co., Minneapolis, is chairman, will deal with controls. Physiological aspects will be studied by a fourth element, membership of which has not been determined.

ICHAM Meets At Cincinnati In Fifteenth Convention

THE FIFTEENTH annual convention of the Institute of Cooking and Heating Appliance Manufacturers, Washington, D. C., was held December 1 through 3 at Cincinnati, Ohio. Activities included seventy exhibits of materials, stoves, heaters and accessory equipment offered by manufacturers. A luncheon was sponsored on the 2nd and the president's reception and banquet was held that evening.

Opening session of the Convention was a meeting of the Board of Trustees, which heard annual reports from committee chairmen and elected officers for the coming year. Three meetings of the Oil Division were held, two of which were presided over by A. T. Atwill, Quaker Mfg. Co., Chicago. Among papers presented at these sessions was a report from the committee on the burnability of fueloils, delivered by Kenneth Jenson, Prentiss-Wabers Products Co., Wisconsin Rapids, Wis. Other papers of interest were: Report of special committee on fueloils by John A. Drake, Norge Div., Borg-Warner Corp., Detroit, Mich. and Carl M. Schaffer, Institute consultant; "Fueloil Outlook" by D. S. Warning, Standard Oil Co. of Indiana, Chicago, Ill. Oil Division sessions were informed also of the status of commercial standard on vaporizing pot-type space heaters, progress of statistical work and discussed with suppliers the availability and cost of materials and components.

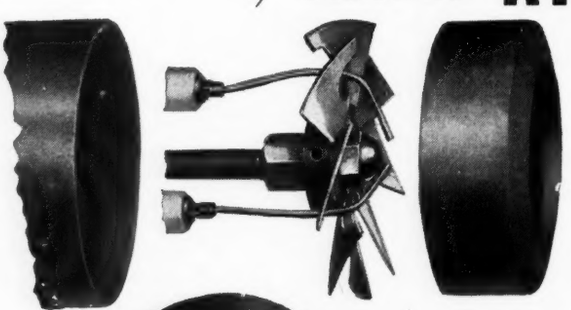
◈

D. C. Wellcome has been appointed sales manager, Sampsel Time Control, Inc., Spring Valley, Ill. A graduate in Engineering at the University of Minnesota, he has a background of experience in both sales and engineering phases of domestic and industrial heating controls. Before joining Sampsel several months ago, Mr. Wellcome was associated with Minneapolis-Honeywell, Fulton-Sylphon and Askania Regulator Co.

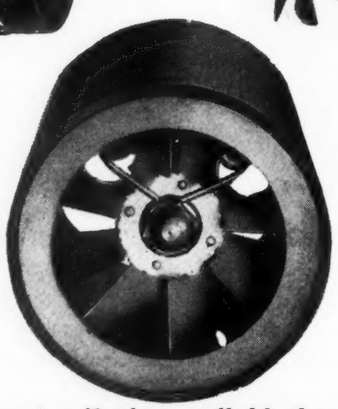
Dr. Arthur B. Hersberger has been appointed manager of the recently organized Chemical Products Div., Atlantic Refining Co., Philadelphia, Pa. He has served with Atlantic's Research and Development Dept. since 1936.

Here's the answer to the Oil Shortage and "Cat" oils..

the NEW and SIMPLE SANBORN AIR SWIRLER



- **Saves up to 20% on fuel oil cost by raising CO_2 up to 14½%**
- **Burns Catalytic Fuel oils cleanly and completely**
- **Raises fire-box temperatures 300 to 500 degrees**
- **Reduces high stack temperatures**
- **Does not reduce burner capacity**



- **Installed in any Gun-type burner**
- **No moving parts or adjustments**
- **Easy to install on the job. No special tools required**

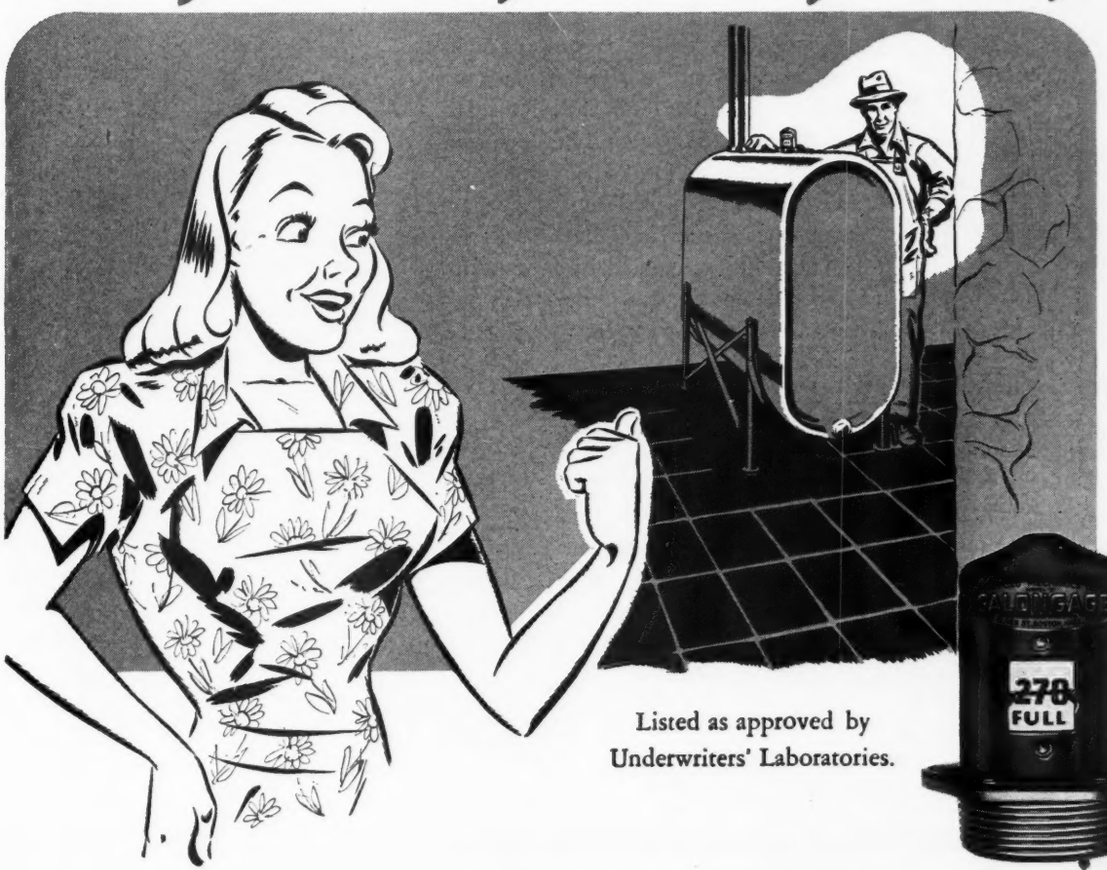
SMOOTH PERFORMANCE

Scientifically and thoroughly mixes air with atomized oil . . . produces perfect carburetion and complete combustion resulting in a hotter, more efficient fire. Excess air, partly burned combustion gases and high stack temperatures are controlled and reduced to a minimum. Eliminates: starting puffs, flame pulsation, nozzle baking, excess air, firebox soot.

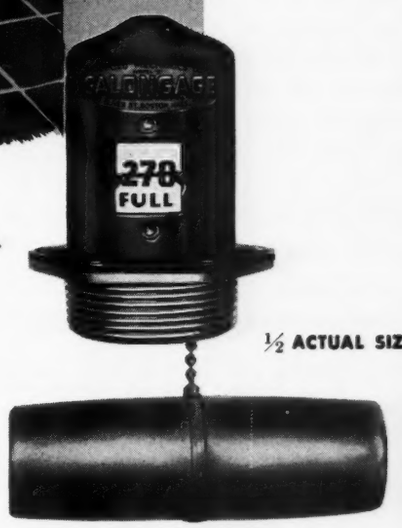
Exclusive territories available for established dealers

SANBORN SYSTEMS, INC. 4975 N. SANTA MONICA BLVD., Milwaukee 11, Wis.

"No Guessing with Galongage!"



Listed as approved by
Underwriters' Laboratories.



½ ACTUAL SIZE

"NOW I CAN KEEP AN ACCURATE RECORD OF THE OIL I USE."

Today the conservation of fuel oil is vitally important. Important, too, in every home that heats with oil is an oil tank gauge that will give a close check on daily consumption.

***Galongage* is especially designed to do just that. No other oil tank gauge measures accurately in gallons... has an easy-to-read magnifying lens... has red warning numerals starting at 50 gallons... is correct to within 1 per cent.**

When making replacements and checking oil burners for greater efficiency, why not install a *Galongage?* Now, more than ever before, your customers will appreciate its reliability, accuracy and eye appeal. And you'll find a *Galongage* installation builds confidence and satisfaction.

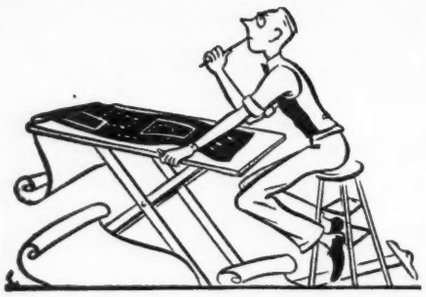
There is a *Galongage* for all basement fuel oil tanks. When ordering, specify depth of tank and size of opening. Write for our price list and catalogue sheet.

The Gauge of Distinction

THE Galongage

A PRODUCT OF APPLIED MECHANICS COMPANY, 167 OLIVER STREET, BOSTON, MASS.

fuelOil & oil heat

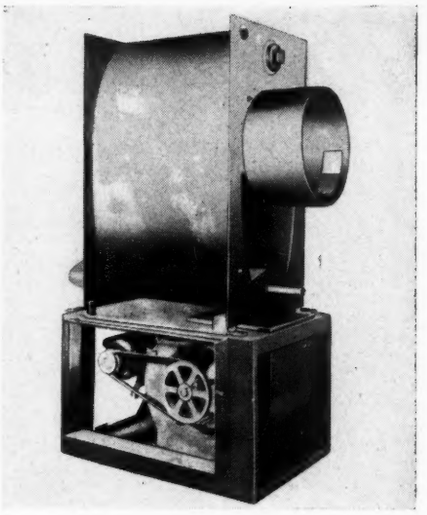


New Products

Sanborn Air-Oil Mixer

SANBORN SYSTEMS, INC., Milwaukee 11, Wis., has announced the Sanborn Swirler, air diffuser, for application to gun type oilburners in the field. While not intended as a combustion head, the Swirler mixes air and oil more completely and thoroughly to improve combustion and efficiency. Advantages enumerated for the Swirler include ease of installation in the field by servicemen with a minimum of alteration and time. The diffuser is stationary, fastened securely to the blast tube with a set screw and does not reduce or restrict burner capacity.

The Swirler is a combination of a circular arrangement of fan-shaped fins, which are fitted behind the nozzle and around the nozzle adapter, plus a straight cone with tapered inside surfaces, which direct and converge high velocity air into the atomized oil with a predetermined pattern. The cone fits inside the blast tube in the same manner as any burner choke ring. Present models available will accommodate burners up to 5 gph capacity and larger sizes are contemplated for commercial and small industrial sizes.



Luty Model A-100 Oil Furnace Rated 100,000 Btu At Bonnet

MODEL A-100 Luty oil furnaces, produced by Peerless Air Conditioning Co., Inc., Detroit 20, Mich., are revealed as being distributed at present in twenty-three states and Ontario, Canada. The unit has an output of 100,000 Btu at the bonnet, with air delivery of 1200 cfm. A burner power unit, located at the base of the unit, consists of a 1/6 hp motor, which drives by belt a low speed fuel unit and blower, and furnishes through a duct air to a firing assembly located near the top of unit. Firing assembly, with nozzle, electrodes and fire cone, is connected to a 10,000 volt transformer, providing continuous ignition.

Standard controls furnished are primary control with extended temperature element, room thermostat and combina-

IT'S HERE!

FOR THE FIRST TIME

WITH THE PATENTED SHELL

DEVELOPMENT CO. COMBUSTION HEAD

The TRU-HEET OIL BURNER

Mfgrs. of Fine Oil Burners Since 1928

Model DL-S

- **CO_2 AS HIGH AS 15% WITH NO SMOKE**
- **FUEL SAVINGS AS HIGH AS 30% OVER CONVENTIONAL GUN TYPE BURNERS**
- **FIRST TO PASS UNDERWRITER'S—LABORATORIES AND U. S. GOV'T. COMMERCIAL STANDARD CS-75-42**
- **OIL RATES WITH SINGLE ADJUSTMENT—FROM 0.50 TO 3.00 G.P.H.**
- **MANY OTHER FEATURES NOT FOUND IN OTHER BURNERS**

If you are really interested in this high class and efficient oil burner, then get your dealer's franchise early.

OTHER MODELS UP TO 15 G.P.H.

DIRECT YOUR INQUIRIES TO

TRU-HEET COMPANY

542 MILLER AVE.

TRENTON, NEW JERSEY

Now the

Wall-Flame BOILER UNIT

PROVIDES THE PRACTICAL HIGH LIMIT IN OVER-ALL EFFICIENCY

ALMOST 85% OF THE HEAT CONTAINED IN THE OIL—DELIVERED TO THE HEATING SYSTEM

1. Fire pot section of boiler entirely surrounded by water for direct flame application.
2. Top section of boiler also entirely surrounded by water.
3. Baffle plate to deflect hot gases.
4. Twenty-eight vertical water tubes providing additional heat absorbing surface. Made of extra heavy seamless tubing to withstand 1000 pound pressure. Wall thickness same as plate, insuring extra long life.
5. Instantaneous coil provides an abundance of hot water the year round at the turn of a faucet.
6. Outer boiler shell completing water jacketed inner sections. All boiler plate is one fourth inch minimum wall thickness copper bearing steel. Meets all national boiler code requirements and A.S.M.E. standards.
7. Refractory hearth supported by heavy steel plate. Continuously welded around boiler wall eliminating possibility of air leaks.
8. Insulation to prevent unnecessary loss of heat to basement.
9. Attractive jacket to completely enclose entire unit.
10. Louvres for combustion air.

DESCRIPTION OF OPERATION: Heat is applied by direct flame application against water backed side walls of fire pot section—(1). Hot gases leave fire pot section thru central opening into top section (2) where they are forced by baffle plate (3) to pass thru vertical water tubes (4), up around outside edge of baffle plate and then back thru upper bank of water tubes to central flue and then to chimney. Instantaneous coil (5) is located in hottest boiler water.

MANUFACTURED BY
V. & E. PRODUCTS CO.
SCHUYLKILL HAVEN, PA.

BOOTH 322
INTERNATIONAL HEATING & VENTILATING EXPOSITION
GRAND CENTRAL PALACE
NEW YORK CITY
FEBRUARY 2 TO 6

DISTRIBUTED BY
TEMP-RITE CORPORATION
1767 CARSWELL ST.
BALTIMORE 18, MD.

tion fan and limit control. Humidifier is an extra accessory and a 12" blower, rubber-mounted and sound-insulated with adjustable pulley on 1/4 hp motor, is included with each unit.

Bacharach Introduces Fyrite Kit For Combustion Testing

A MASTER KIT, containing combustion testing equipment for quick readings of draft, stack temperature and CO_2 content of flue gases, has been developed by Bacharach Industrial Instrument Co., Pittsburgh 8, Pa. A standard Fyrite CO_2 Indicator, included with the kit, makes possible readings in approximately 40 seconds on an instrument reported accurate within 1/2 of 1% CO_2. The range of model MZF draft gauge, also furnished with the set, is 0.25" up-draft to 0.05" down-draft. The gauge, supplied with 9' of tubing, may be placed away from the test point where it may be observed most conveniently. Third item in the kit is a Tempoint stack thermometer, with range from 100° to 950° F. in 10° divisions. All metal construction provides sturdiness, fast thermal response

and easy readability. A slip-on handle permits the hand to be kept at a safe distance from hot flue pipes.

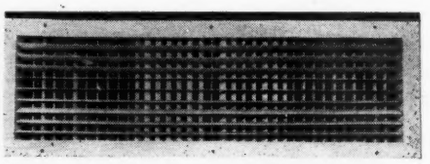
Bacharach's Fire Efficiency Finder, included in the kit, provides heating efficiency and stack loss readings by setting CO_2 and stack temperature readings on this slide rule arrangement.

Dual Purpose Wire Tool

A POCKET-SIZE combination wire stripper and cutter, announced by Aircraft-Marine Products, Inc., Harrisburg, Pa., covers the wide range of wire sizes, 22 to 10. The tool is designated the Yellow Jacket, has shockproof, plastic handles and incorporates a built-in wire cutter, serrated plier jaws, and a handy stud size gauge. Stripping notches also serve as convenient wire size gauges.

Titus Grilles and Registers Feature Waterloo Louvre

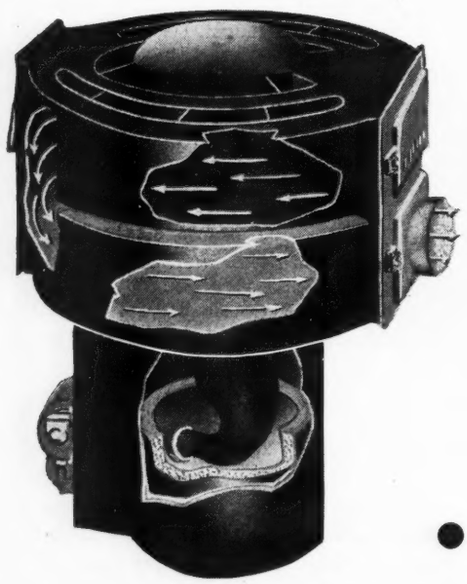
A COMPLETE postwar line of air diffusion grilles and registers will feature the Waterloo Airfoil Louvre, a development of Titus Mfg. Corp., Waterloo, Iowa. The louvre is described as patterned



after the air foil section of an airplane, and is capable of handling higher velocities and greater quantities of air with less resistance. Titus has designed also a new matching return air grille and volume control damper.

Blades are inserted in the grilles and

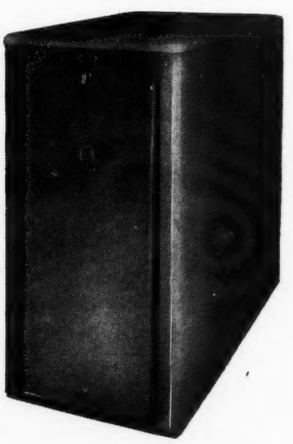
Don't Judge By Appearance . . . ALONE



THE REAL BEAUTY IS INSIDE

Sales are made through Performance!

So advanced, so outstanding in design and functional features, prospects are sold, once they see the RADIATION FURNACE.



The attractive exterior of a RADIATION FURNACE, is just the beginning of sales appeal. The thorough and skilled workmanship is your guarantee of satisfaction.

Compare the facts, exclusive dealerships available. Backed by performance that makes sales easier. Write for full information, Dept. RF-F.

RADIATION FURNACE CORPORATION
BENTON HARBOR, MICHIGAN, U. S. A.

Bonus* Built

THE AMAZING RESULT OF AN ENGINEERING PRINCIPLE THAT ASSURES LONGER TRUCK LIFE

... And ONLY Ford Trucks Have It!

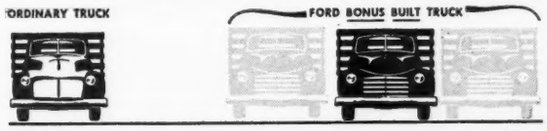
Coming for 1948—a brand new line of Ford Trucks . . . new all through . . . and Bonus Built, too!

Soon you'll see the great new line of Ford Trucks—great not only because they are *new all through*, but because they are the amazing result of a time-proved truck building principle.

This principle is Ford Bonus Built construction. Here's what it means to you:

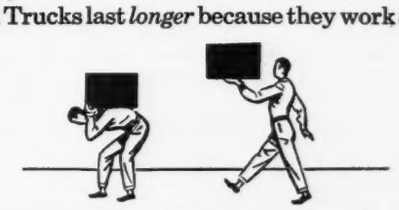
Every one of the new Ford Trucks for '48 is built with *extra strength* in every vital part. This extra strength provides WORK RESERVES that pay off in two important ways:

First, these Bonus Built WORK RESERVES give Ford Trucks a greater *range of use* by permitting them to handle loads beyond the normal call of duty. Ford Trucks are not limited to doing one single, specific job!



Not ONE Capacity . . . but real RANGE when needed!

Second, these same WORK RESERVES allow Ford Trucks to relax on the job . . . to do their jobs with less strain and less wear. Thus, Ford Trucks last *longer* because they work *easier!*



The load is carried EASIER by the stronger man!

Remember, every Ford Truck for '48 is Bonus Built for longer life, wider use. Keep in touch with your Ford Dealer . . . plan to see these new Ford Bonus Built Trucks for '48 as soon as announced. Don't settle for less—get the only truck that's Bonus Built! It's Ford!

***BONUS:** *"Something given in addition to what is usual or strictly due."—Webster's Dictionary.*

Listen to the Ford Theater over NBC stations Sunday afternoons, 5:00 to 6:00 p. m., E.S.T.

LIFE INSURANCE EXPERTS PROVE . . . FORD TRUCKS LAST UP TO 19.6% LONGER!

fueloil & oil heat

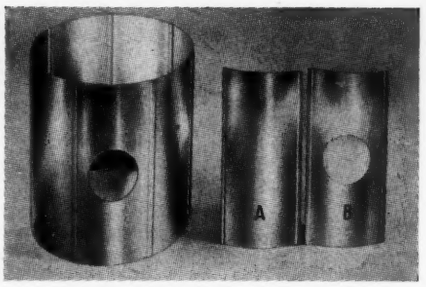
registers with a device to insure uniform tension and to avoid freezing or locking of adjustable louvres. New manufacturing methods enable the company to furnish grilles in any size without mullions or butted construction.

OB Waterless Hand Cleaner

A SMALL DAB of OB hand cleaner rubbed into the hands like ordinary soap and wiped off on a paper towel or rag, effectively removes all traces of dirt and grime without the use of water, according to Oil Base, Inc., Los Angeles 54, Cal., who is offering free samples to those who request them. The cleaner is designed to remove oil, grease, tar, varnish, gum and almost any substance not soluble in water. A little of the compound also is recommended to keep tool handles free from oil and grease. Standard packages offered are 1 and 5 lb. cans.

Panelox Combustion Chambers Require No Tools, Backfill

HEATING DIV., Stefco Steel Co., Michigan City, Ind., is producing Panelox stainless steel combustion chambers,

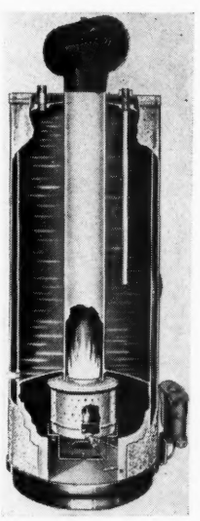


which feature quick and easy assembly. Curved sections of heat-resistant stainless steel with interlocking edges are used for panels, one type with openings to accommodate 4", 5" or 6" burner guns, the other a solid type for chamber walls. Sections are joined by sliding one interlocking edge over the other without tools and no backfill insulation. By addition or removal of panels, all sizes and shapes of chambers for domestic installations are possible.

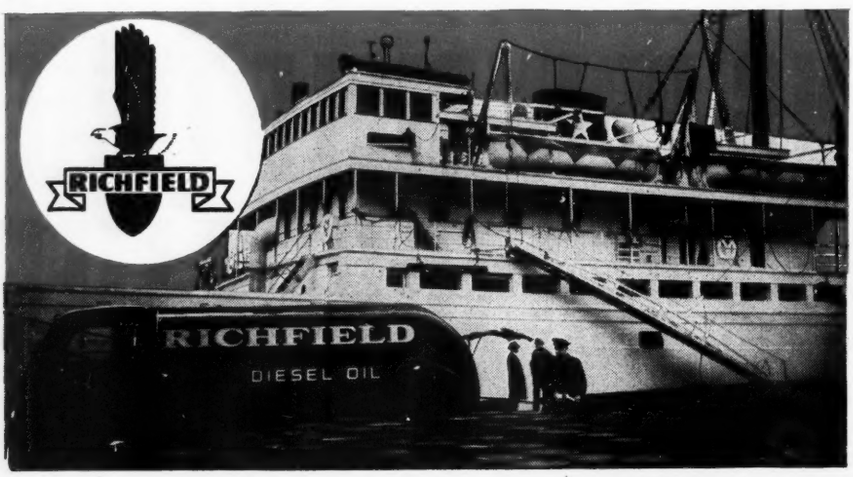
Heat-resistant chrome type of stainless steel, capable of withstanding temperatures of 2100° F., is used for the panels. Lightweight, easy to handle and no breakage in shipping, handling or installation are additional features listed for Panelox combustion chambers.

Ex Cel Oilfired Water Heaters Fired With Vaporizing Burners

FIVE SIZES of oilfired water heaters, made by Ex Cel Co., Dowagiac, Mich., are fired with 7", 8" or 10" vaporizing oilburners depending on size and capacity. Models H20, H30, and H40 have recovery rates of 30 gph; H50 recovers 40 gph and H65 recovers 60 gph, all through an 80° temperature rise. In all cases the model numbers indicate the size of the storage tank.

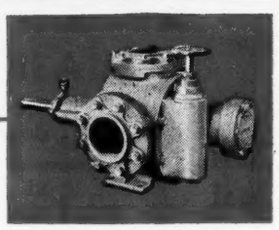


All sizes are equipped with ¾" hot water pipes, 1" cold water openings, and 1" drain pipes. The storage tank is fabricated of copper bearing steel, hot dipped galvanized, inside and out. The constant level oil control is of the auto-



TRI-ROTOR PUMPS

handle Richfield products



Diesel oil in drums on dock is being transferred to the boat through a Yale & Towne TRI-ROTOR Pump installed on truck assembly.

This is one of many ways in which Richfield Oil Corporation (California), is using the exclusive, rotary piston, positive displacement TRI-ROTOR Pump to transfer petroleum products efficiently and economically.

TRI-ROTOR'S high volumetric efficiency and positive handling characteristics result from the combination *in one pump* of the outstanding features of the rotary pump and the piston pump. Variable Volume Control reduces over-heating, chewing, foaming and agitating the product. Also—with only three moving parts, operating and maintenance costs are low.

Three head styles: Solid, By-pass, Variable Volume—optional and interchangeable—for all truck pump installations. Size 5 gpm to 200 gpm.

TRADE YALE MARK

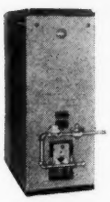
MAKERS OF THE FAMOUS YALE LINES OF LOCKS, HARDWARE, HOISTS AND INDUSTRIAL TRUCKS

Send specifications for your pump requirements to The Yale & Towne Manufacturing Company, 213 Henry Street, Stamford, Conn., U. S. A.

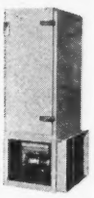
ECONOMICAL—ROTARY ACTION—PROTECTIVE—PISTON ACTION
ONLY TRI-ROTOR GIVES YOU BOTH IN ONE PUMP

MONCRIEF *Heating Equipment*
SETS the PACE for your 1948 PROFITS

Series L
Gas Fired, Steel
Air Conditioning
Unit

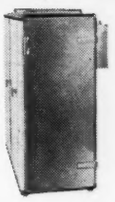


Series W
Gas Fired, Steel
Gravity Furnace

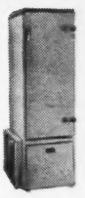


Series U
Gas Fired, Steel
Utility Air Conditioning Unit

FIRST in QUALITY
★
FIRST in DEPENDABILITY
★
FIRST in COMPLETENESS OF LINE
★
FIRST in PROFITS

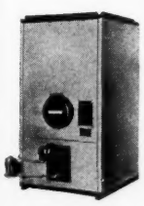


Series CL
Gas-Fired, Cast Iron
Air Conditioning Unit

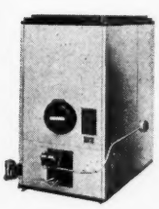


Series CU
Gas-Fired, Cast Iron
Utility Air
Conditioning Unit

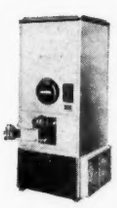
Series P
Oil Fired, Steel
Air Conditioning Unit



Series VW
Oil Fired, Steel
Gravity Furnace



Series VL
Oil Fired, Steel
Air Conditioning Unit



Series VU
Oil Fired, Steel Utility
Air Conditioning Unit

● You'll get more of everything you want and more of everything you need in Quality—Dependability—and Completeness of Line, to meet the demands for any home heating job, with Moncrief's new, complete line of automatic heating and air conditioning equipment.

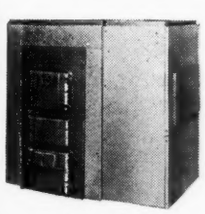
Enameled cabinets with many innovations, new in cabinet design and construction . . .
Automatic, submerged arc welded seams that don't leak . . .
No noise-making cabinet liners . . .
Cabinets with hinged doors—no dust-catching louvres . . .
A complete line of steel units for all fuels . . .
A complete line of cast iron units for gas and coal firing . . .

Imagine a complete line of heating equipment with features found in no other line of heating equipment, that "Lets-you-in" on any heating job, large or small.

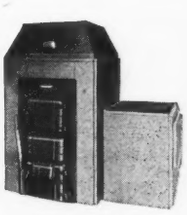
SUREFIT PIPE and FITTINGS

You'll get a complete line of die-stamped, machine-made Surefit furnace pipe and fittings for streamlined, time-saving, money-making heating installations. Also Mayn Air Dampers, for installation in forced air stackheads—take the place of basement dampers—lower in price—reduce installation and balancing costs.

STOP
at the
MONCRIEF EXHIBIT
BOOTH 291-3
HEATING · VENTILATION
EXPOSITION
FEB. 2-6



Series AC-700-F
Coal-Fired, Steel
Air Conditioning Unit



Series AC-700
Coal-Fired, Steel
Air Conditioning Unit

Series 700
Coal-Fired, Steel
Gravity Furnace

Series C
Coal-Fired, Cast
Gravity Furnace

Sell Moncrief
Build for your Future

THE HENRY FURNACE COMPANY
Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

matic snap action type. Outer casings of the heaters of the heater measure 16", 18", 20", 22" and 24".

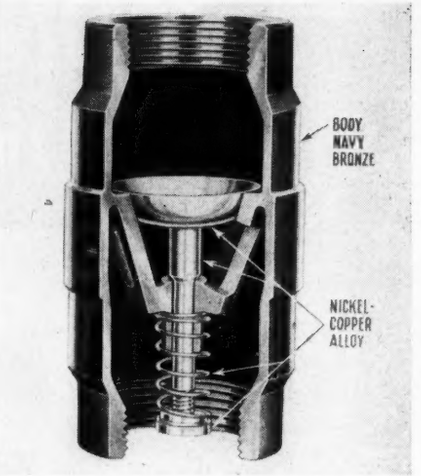
Hudson Dusters Adapted For Soot Destroyer Use

FOUR MODELS of spray guns and dusters, made by H. D. Hudson Mfg. Co., New York 7, N. Y., are suitable for use to dispense many types of powdered soot destroyer. Capacities of the dusters will vary with the consistency of the soot destroyer, but the models are furnished with powder reservoirs, measuring 1¾" diameter, 3 and 5" long; 4¼" diameter, 4½" long and 2¾" diameter, 9" long.

Operation of any of the four models requires only filling the reservoir with soot destroyer powder and using the duster like any conventional hand sprayer. Dusters are available either direct from the company, their branch offices or through wholesale outlets.

Stratoflo Check Valves With Flexible Metal Poppet

STRATOFLO all position line check valves, produced by White Machine Works, Fort Wayne 1, Ind., are available in sizes from ½" up to 2" and are suitable for working pressures up to 200 lbs. The valve's one-piece body is cast of Navy-bronze and features a patented flexible monel metal poppet, spring and nut to insure positive and automatic closing.



Recommended uses for the valves include a wide range of service in check lines for steam, hot or cold water and oil. No. 400 valves are designed for handling liquids, No. 401 for air. The valves may be installed in any position, and are designed to withstand operating strains beyond the rated pressure.

AGE Temporary Heater Fired With Breese Burner

A TEMPORARY OIL HEATER, for use in warehouses, small factories and a variety of spot heating applications, is a product of All-Gas Equipment Co., Milwaukee 6, Wis. The heater consists of a 55 gal. oil drum, with a baffle through the center to increase flue gas travel. Unit is equipped with a Breese burner, mounted on a cover plate bolted to the drum and on which the smoke collar also is attached. Steel legs are bolted to the drum. The entire unit weighs about 75 lbs., and manual control is provided for the burner, which has a maximum input of 2/3 gph.

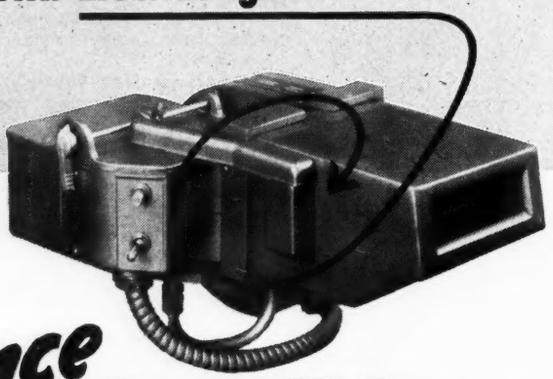
A-P Conversion Kit Operates Trailer Heaters Automatically

AN ELECTRIC conversion kit for trailer heaters, announced by Automatic Products Co., Milwaukee 10, Wis., contains everything needed for automatically controlled oilheat and fits the 252A manual control, made by the company, which is standard equipment on many trailer heaters. Temperature is controlled

Announcing

THE VAPORIZING RANGE OIL BURNER

with Electric Ignition



Reliance (Model 246) **Range Oil Burner**

Horizontal Type

FITS ANY STANDARD WOOD or COAL RANGE

Here is the outstanding advancement in vaporizing-type oil burners —the Reliance Oil Burner with electric ignition.

The Reliance Burner is unique. It has been developed by Reliance engineers to include an electric igniter *adjacent to, and not in, the combustion chamber.*

Easy to operate. One control adjusts fuel and air to form proper fuel-air ratio without affecting motor speed. Motor and igniter switches start combustion. No hand firing.

Stove manufacturers, distributors, and dealers:

The Reliance Burner with electric ignition offers many exclusive advantages which make it the leader in the vaporizing oil burner field.

Write for complete information

Reliance Products Corporation

309 N. E. Davis Street • Portland 14, Oregon

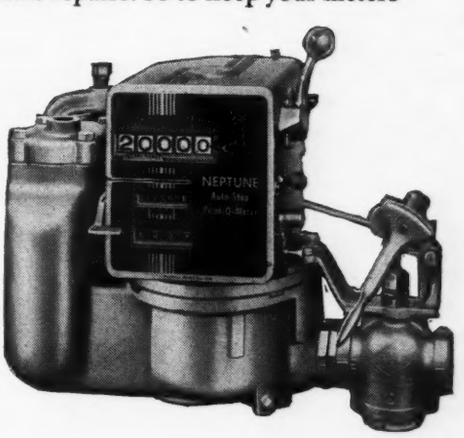
DO YOU KNOW ABOUT THIS EXCLUSIVE UNIT REPLACEMENT PLAN THAT

SAVES

YOUR MONEY... YOUR TIME... YOUR NEED FOR REPAIRING METERS IN THE FIELD?

How would you like to do away with the nuisance of repairing or rebuilding meters in the field? And at the same time save yourself some money? That's exactly what happens with the Unit Replacement Plan.

You see, like any mechanical device, meters need occasional attention. At the same time you can't afford to have them out of service while you make repairs. So to keep your meters operating at the peak of efficiency over a long period of time, with sustained accuracy, and to make your Red Seal investment completely satisfactory, we established the Unit Replacement Plan. It allows you to exchange the Register, Measuring Chamber, Gear Train and Air Release Unit for guaranteed factory rebuilt replacements at a nominal cost.



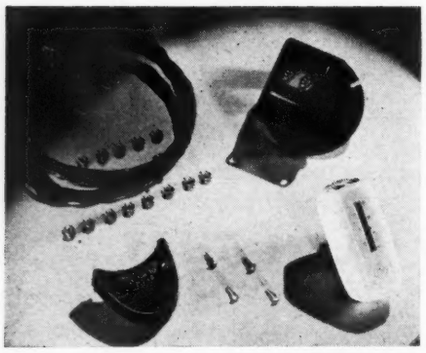
And, because adequate stocks of these unit replacement parts are kept on hand at our strategically located branches and at petroleum equipment jobbers' warehouses, your meters are kept in continuous service. There is no expensive rebuilding or repairing in the field, you save time and money.

Your local Neptune representative will be glad to give you the full details. Or, write us direct.

NEPTUNE RED SEAL METERS

Accuracy you can bank on

NEPTUNE METER COMPANY, 50 WEST 50th STREET, NEW YORK 20, N. Y. Branch Offices in Atlanta • Boston • Chicago • Dallas • Denver • Kansas City, Mo. • Los Angeles • Louisville • Philadelphia • Portland, Ore. • San Francisco • NEPTUNE METERS, LTD., Long Branch, Ont., Canada

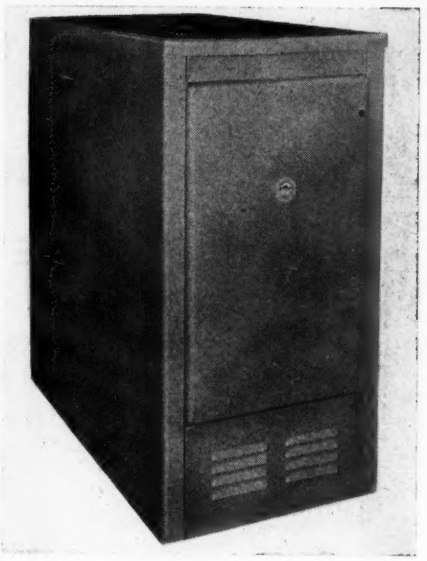


by a heat-anticipating thermostat and oil flow is regulated by an automatic electric top, which is attached quickly to the manual control. The top can be operated manually.

The entire conversion can be made within thirty minutes. In the kit is contained 25" of two conductor low voltage wire, 12 insulated staples and a choice of standard or plug-in transformer, along with complete instructions.

FC320 Boiler For Small Homes Added To Federal Boiler Line

MODEL FC320 boiler is announced as an addition to the line of Federal Boiler Co., Midland Park, N. J. The new



model can be gas or oilfired, and incorporates all the features of the larger models, including a full-sized tankless coil. It contains also flared and expanded tubes and is available with a built-in mixing valve.

The new boiler, designed for small homes installation, has a net rating of 320 sq. ft. steam, 510 sq. ft. hot water. The boiler's insulated jacket can be installed after heating and oilburner piping has been completed.

Sturdi-Raks For Outside Drums On Space Heater Installations

AN ALL METAL RACK, developed to replace the wooden racks normally used to hold 55-gallon drums when installed outside for oil supply to space heaters, now is available from Sturdi-Rack Co., Philadelphia 44, Pa. A single size holds one drum, and the double Sturdi-Rak accommodates two. Adjustable legs can be ordered as extra equipment and will keep the rack level on slopes up to 3".

The rack is made entirely of metal, painted to prevent rusting, with the drum platform 4' from the ground. The platform is tilted slightly to facilitate gravity feed. Side rails prevent the drums from rolling off the rack, and welded feet eliminate the danger of settling in soft dirt or gravel. The company is working also on the development of racks for all types and sizes of oil drums.

Modulating Weatherstat For Large Building Installations

A FULLY MODULATING SYSTEM of temperature control for commercial and in-

A REMARKABLE OPPORTUNITY *for* AGGRESSIVE OIL BURNER DEALERS

Turn the threatened fuel stringency into a selling argument to build prestige and profits for you. Here's how:

Equip each one of your sales and service men with a FYRITE Combustion-Test Kit. It contains a complete set of practical testing instruments to make a dramatic "fuel-saving" check up and demonstrate the adjustments required to reduce fuel bills.

By featuring the FYRITE test in your sales and service calls you tell your customers and every prospect that you are equipped to adjust old oil burners for maximum fuel economy. Service work which is keyed to, and sold on the basis of, fuel conservation will ring up *important* immediate profits and build real customer satisfaction and good will for future business.

And remember that the FYRITE test will enable you to find the owners of old and worn-out oil burners and demonstrate to them convincingly the need of replacement of their obsolete installation by more modern and efficient equipment. This replacement business is profitable and of real importance during these times of temporary fuel restrictions.

Illustrated here is the FYRITE Master Kit. It provides combustion-testing equipment of broadest possible versatility for quick, accurate readings of draft, stack temperature and CO_2 content of the flue gases necessary for satisfactory and economical burner operation.

For further information see your jobber or write to us for free Bulletin 733.

MEMBER OHI OIL-HEAT INSTITUTE OF AMERICA

BACHARACH INDUSTRIAL INSTRUMENT CO.

7000 BENNETT STREET—PITTSBURGH 8, PA.

AS SEEN IN—

In 1948 Nu-Way OIL BURNER

National Advertising WILL

- **MAKE 25,821,532 CONTACTS IN LEADING NATIONAL MAGAZINES AND DIRECT CONSUMERS TO THE**

"Local Heating Contractor"

Not just one ad but a campaign covering 8 months of the year . . . that's the Nu-Way plan for '48. Advertisements like the one shown here will appear in leading magazines read by millions of home owners. And these advertisements direct the prospect to the "Local Heating Contractor" to get Nu-Way Oil Burners. Each advertisement will help sell the quality of Nu-Way Oil Burners, the many exclusive features such as *patented* Positive Air Control and *patented* Nozzle Shield. Other sales helps include new mats for local newspapers, a new 8 page book on Nu-Way Oil Burners, and big new and improved catalog and instruction book. The Nu-Way policy of quality production and promotion is backed by a fair distribution plan based on 25 years experience in the oil burner industry. WRITE for new folder containing complete details on the Nu-Way "XL" Line of Oil Burners.

THE Nu-Way TO ADD A NEW ROOM IN YOUR HOME!

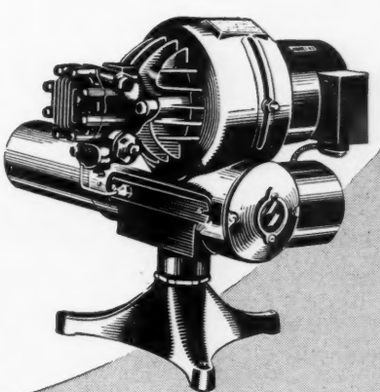
Space now devoted to the coal bin becomes a useable part of your home—game room, hobby shop, or just extra space—when you convert to oil heat the Nu-Way. Best of all, you get the comfort and convenience that goes with automatic oil heating. It's economical, too! Only Nu-Way offers patented positive air control for greater economy—quieter operation. Nine other big features for comfort, convenience and efficiency. Nu-Way Oil Burners for conversion are sold through your local heating contractor.

CONVERT WITH A

Nu-Way OIL BURNER

"Automatic Oil Heat Exclusively Since 1921"

NU-WAY CORPORATION
ROCK ISLAND, ILLINOIS



NU-WAY OIL HEATING EQUIPMENT

Nu-Way CORPORATION

ROCK ISLAND, ILLINOIS

Sold Only Through Jobbers.

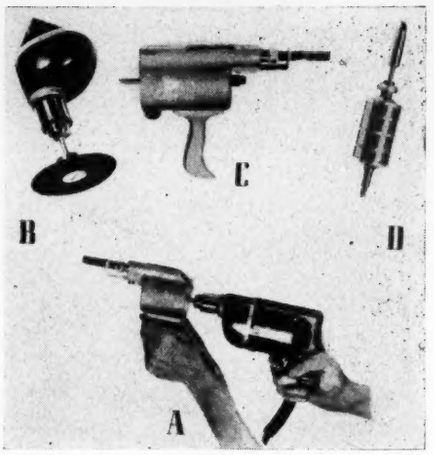
Also Special Applications for Furnace and Boiler Manufacturers.

"AUTOMATIC OIL HEAT EXCLUSIVELY SINCE 1921"

dustrial buildings has been announced by Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn. Applicable to hot water or steam heating plants, the control supplements Weatherstat systems now made, and consists of a new outdoor unit with thermostatic control, sensitive to slight changes in weather conditions. A control panel, which is custom-built on the job, contains all adjustments for matching heating system operation to design temperature of the zone and desired temperature level. In addition, a reset controller is included or mounted separately near modulating valves. Night shutdown is an added feature.

Whittle Offers Attachments For Drill Press, Hand Drill

FOUR ATTACHMENTS, developed by J. D. Whittle Co., Chicago 6, Ill., are adaptable to any electric hand drill and most drill presses. Interchangeable units include a saw and file attachment for hand drills only, a 3" disc sander, a saw and file attachment and a screwdriver attachment for either tool. Each attachment is light in weight and requires no special skill to operate.



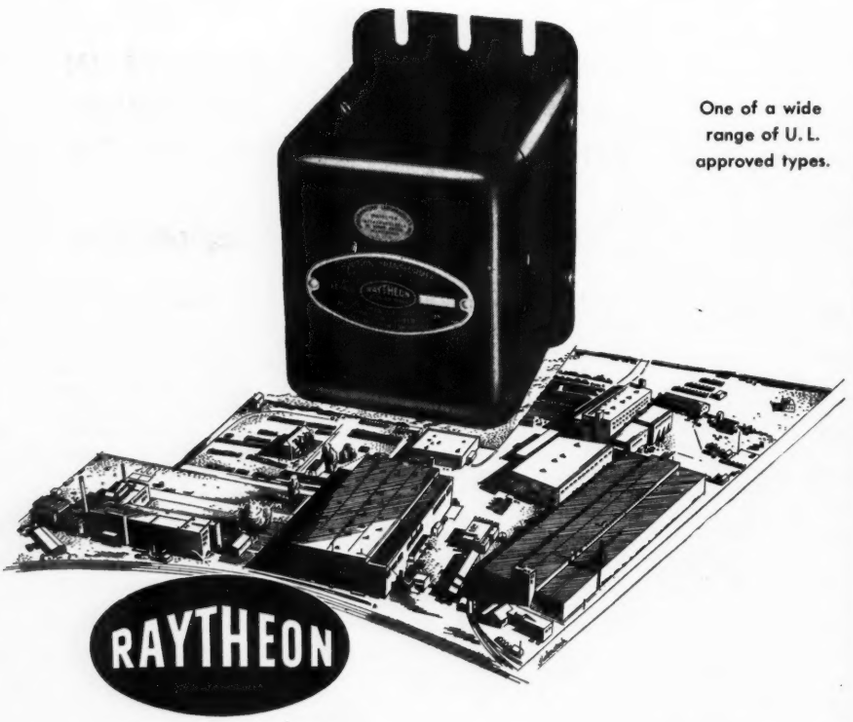
Silver-Soldering Outfit Uses No Acetylene Torch or Tanks

AN OUTFIT, introduced by American Products Corp., Chicago 5, Ill., consists of an improved type alcohol torch, fuel, heat retaining chamber, accessories, and a silver solder supply kit including a tube of flux paste and 100" of assorted sizes of silver solder wire and 1" width strip sheet. The entire unit weighs only 3 lbs. and does away with the necessity for acetylene torches or tanks for silver-soldering up to ¼" thicknesses.

Kunkle Boiler Safety Valve In Sizes From ¾ In. to 3 In.

KUNKLE VALVE CO., Fort Wayne, Ind., has started production of Fig. 34, a new steam and hot water boiler safety valve. Made in seven sizes, ranging from ¾" to 3", the valves feature all-cast construction with try lever arranged so that weight loading cannot prevent the valve from opening. Normally set at 10 or 15 psi, Fig. 34 can be set at pressures up to 45 psi.

Capacities in steam per hour dis-



One of a wide range of U. L. approved types.

IGNITION TRANSFORMERS

Engineered For Oil Burners

Raytheon's tremendous facilities and unparalleled experience provide an unlimited and dependable source of supply. For complete information write for Bulletin DL-K-302, or send details on your needs.

RAYTHEON MANUFACTURING COMPANY

Excellence in Electronics

COMMERCIAL PRODUCTS DIVISION · WALTHAM 54, MASS.

Industrial and Commercial Electronic Equipment, Broadcast Equipment, Tubes and Accessories

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ATLANTA 3: 306 Candler Bldg.
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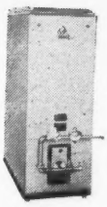
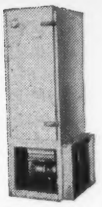
CLEVELAND 15: 902 Hanna Bldg.
DETROIT: 6432 Cass Ave.
NEW YORK 17: 60 East 42nd St.
WASHINGTON, D.C.: 739 Munsey Bldg.

THEY'RE THE TALK OF TOMORROW'S HOMEBUILDERS

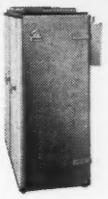
Series A
Gas-Fired, Steel
Air Conditioning Unit



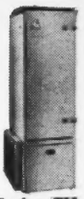
Series G
Gas-Fired, Steel
Gravity Furnace



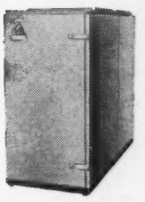
Series H
Gas-Fired, Utility Steel
Air Conditioning Unit



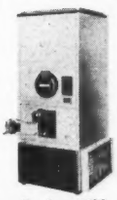
Series CA
Gas-Fired, Cast Iron
Air Conditioning Unit



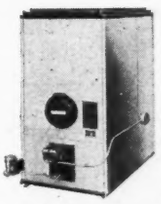
Series CH
Gas-Fired, Cast Iron
Utility Air
Conditioning Unit



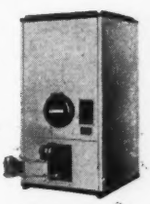
Series O
Oil-Fired, Steel
Air Conditioning Unit



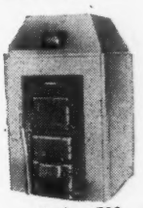
Series VH
Oil Fired, Steel Utility
Air Conditioning Unit



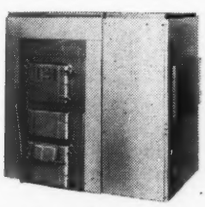
Series VA
Oil Fired, Steel
Air Conditioning Unit



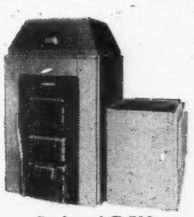
Series VG
Oil Fired, Steel
Gravity Furnace



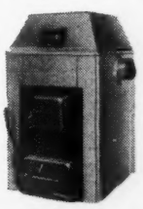
Series 700
Coal-Fired, Steel
Gravity Furnace



Series AC-700-F
Coal-Fired, Steel
Air Conditioning Unit



Series AC-700
Coal-Fired, Steel
Air Conditioning Unit



Series C
Coal-Fired, Cast
Gravity Furnace

"Years Ahead"
Features in
DESIGN · CONSTRUCTION
OPERATION
MAINTENANCE · SERVICE
in Luxaire Units

● What homebuilders say is what really counts. And homebuilders certainly have been giving Luxaire a great send-off.

They talk about Luxaire's smart appearance . . . Luxaire operating economy . . . Luxaire dependability . . . Luxaire construction features . . . Luxaire maintenance features . . . Luxaire service features . . . they talk about Luxaire's "Years Ahead" features at every opportunity.

Luxaire's "Years Ahead" automatic heating and air conditioning equipment is definitely the talk of tomorrow's homebuilder. Regardless of fuel preference—gas, oil or coal—there is a Luxaire that will fit the job.

Nation-wide acceptance has made Luxaire the "most-in-demand" line of heating equipment.

Visit Luxaire's complete line of "Years Ahead" automatic heating and air conditioning equipment at Booths 282 and 284, The International Heating and Ventilating Exposition in New York City, February 2 to 6.

Luxaire's
"YEARS AHEAD"
Automatic Heating
AND
Air Conditioning
Equipment

THE C·A·OLSEN MANUFACTURING COMPANY

Luxaire HEATING & AIR CONDITIONING UNITS

ELYRIA 12, OHIO

charge rate are 257 lbs. for the ¾" size and 4168 lbs. for the 3" size. Distribution will be through trade supply and heating jobbers.

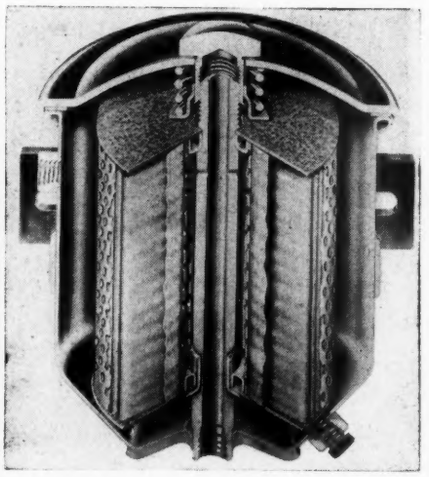
Rayfield Model L-3 Burner Designed For No. 3 Fueloil

SUPPLEMENTING its line of gun type burners for No. 5 fueloil, C. L. Rayfield Co., Chicago 8, Ill., now manufactures a gun type burner for No. 3 grade oil. The new burner, designated model L-3, has a capacity of 1 to 5 gph and is intended to operate efficiently using catalytically-cracked oils. Sundstrand or Webster fuel units are used, along with standard transformers and parts to facilitate service and maintenance.

Features include heavy cast aluminum blower housing and oversized blowers to give air delivery quietly over a wide range. Carboloy tools are utilized to machine the burners, and with the use of automotive type jigs and fixtures, interchangeability of all parts in the field is assured. Gun tube, with air cone and air turbulator, is of heavy seamless steel. Long-hour, capacitor type 1/6 hp motors, with oversized bearings, are standard equipment.

P-703 Purolator Unit Offers Large Filter Area

A DOMESTIC OILBURNER oil filter, recently announced by Purolator Products, Inc., Newark 2, N. J., is designated



model P-703 and is equipped with a P-71 replaceable filter element. Unit has ¼" I.P.S. connections, with a 1 gpm flow rate, and is installed on the suction side of the pump.

Filters are equipped with Micronic oilburner elements, made of plastic impregnated cellulose and designed to keep the burner clear of particles as small as microns (.0039"). The Micronic element offers 570 sq. in. of filtration area.

Furblo Oilfired Furnace Unit Rated at 100,000 Btu/hr.

FURBLO CO., Hermansville, Mich., longtime manufacturers of blowers and blower units, announces production of the model 0-100 winter air conditioning unit, fired with a Petro Model P gun type oilburner, rated at 1 gph. The unit is furnished complete with automatic humidifier, Field draft control, filters, stack mounted primary control and Minneapolis-Honeywell Acratherm and Airstat. With a rating of 100,000 Btu at the plenum, a 10" blower, powered by a ¼ hp. motor, delivers 1200 cfm.

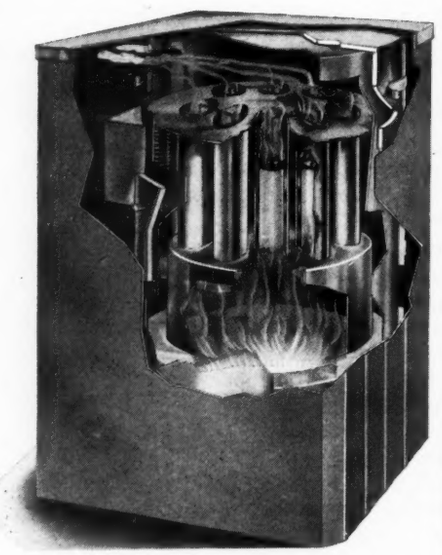
The shell, or main part of the unit, is made of 10 gauge steel, the radiator of 14 gauge and the cabinet of 20 gauge. Insulation effectively separates the blower compartment, containing only blower, motor and filters, from the heating compartment, to eliminate possibility of re-

YOUR BEST BUY IN '48...

ACME DUAL 8

HIGH EFFICIENCY BOILER-BURNER UNIT

The amazing high efficiency of the Acme Dual "8" is due to the engineered design of the Stainless Steel intensifier tubes... which not only act as baffles but also radiate to the heating surfaces of the boiler tubes additional heat taken from the central gases which usually pass on to the chimney as waste. Their design also tends to maintain the same high temperature throughout the length of the tubes thereby producing much faster heating with a greatly reduced fuel consumption.



Beautiful, streamlined green wrinkle finished cabinet with chrome trim. Top covers easily removed for cleaning. Tankless water heater; removable type, 240 G.P.H. High Pressure boiler flues. Blanket insulation, 1½ in. rockwool. Heavy steel fire-box.

All accessories are conveniently and efficiently located on one side of the boiler making installing and servicing a simple task. The cabinet can be assembled after all piping has been completed.

Fast heat! Fast sales! Could you ask for anything better! Exclusive territories are still open for New Dealer Outlets. Write today for catalog and full details. Check the facts and you'll feature the Acme Dual "8" in '48.

ACME TANK AND WELDING

DIV. THE UNITED TOOL & DIE COMPANY

1031 NEW BRITAIN AVE. ELMWOOD, CONN.

Plan Now For Profitable Year-Around Selling with the Complete SCOTT-NEWCOMB Line

Are you looking to the future—when you can again sell a complete line of heating, cooling and other related equipment? Then look at the list of high quality S-N products that can be real profit makers for you.

The first model of the S-N oil burner was produced by L. L. Scott and E. C. Newcomb in 1917. It was the first pressure atomizing burner. Today many of the developments of these two men are in general use—including electric ignition, thermal type safety-pressure oil cut-off valve, non-leaking oil pump driven at motor speed.

It is the constant search for new and better designs and better methods of manufacturing that has kept the Scott-Newcomb product far ahead in quality. These are products which you can sell with complete confidence—at a price that will give your customer greater value for his dollar.

Scott-Newcomb products bring you profits the year around—keep your sales force operating all year. The complete line includes both heating and cooling units—plus many items that are not seasonal. Eliminate dull "off-seasons"—sell the S-N line.

Both now, and for the future, this is an extremely valuable franchise. Get it for your territory NOW! Write today, giving complete information about your past experience.

These S-N Items Are Available for Delivery NOW

- Oil Burners, for No. 3 oil
- Furnaces—Oil, Gas and Coal Burning
- Boilers—Steel and Cast Iron
- Oil and Electric Water Heaters
- Kitchen and Bathroom Ventilating Fans
- Store and Room Coolers
- Attic and Window Fans
- Water Softeners
- Garbage Disposers

See these attractive, fast-selling S-N products at the 8th International Heating and Ventilating Exposition, Grand Central Palace, New York, Booth No. 350.

SCOTT S N NEWCOMB

SCOTT-NEWCOMB, Inc. 1442 S. BOYLE AVE. ST. LOUIS 10, MISSOURI

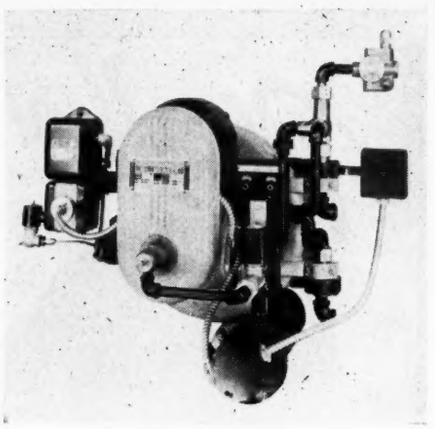
verse circulation during blower off periods, to lessen resistance to cold air return and to prevent the filters from being exposed to heat.

Fireye Programming Control For Industrial Oilburners

TYPE 24PJ8 oilburner programming control, announced by Combustion Control Corp., Cambridge 42, Mass., is an addition to the Fireye line, designed to provide automatic starting and programming control for commercial and industrial oilburning equipment. It is used with photoelectric flame failure scanner Type 45PH5 and automatically starts a burner and programs a sequence of fuel valve opening, post-ignition time, priming and scavenging.

Horizontal Rotary Burner Announced By Lieblich

THE LIEBLICH BURNER, of horizontal rotary design, has been announced by Lieblich Burner Service, Inc., New York, N. Y. The full automatic burner will burn No. 5 or 6 fueloil and is equipped with a Flame Shaping feature, making



it adaptable where combustion space is limited. Capacity ranges from 25 to 500 gph, with various current characteristics available for standard air-cooled motors. Burner drive is by twin V-belts and enamel finish is provided for the cast-iron burner housings.

Burners have been approved by Underwriters and New York Board of Standards and Appeals.

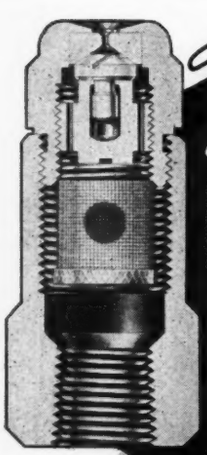
Certified Flexible Couplings With Neoprene Inserts

TWO TYPES of flexible couplings being marketed by Certified Flexible Couplings, New York 17, N. Y., now are equipped with resilient members and inserts made from neoprene. Standard types have a neoprene resilient member with convex lugs, designed to mate with the concave drive surfaces on the metal coupling halves. "R" type couplings are furnished with a steel ring construction neoprene insert to provide a compression chamber taking up all extrusion forces without loss of resilience or free movement.

Outside diameter and bore are machined concentric to each other and to the drive arms within very close tolerances. Outside diameter and bore tolerances are held to plus .0005", minus .0000". Various millimeter bores can be furnished from stock at regular prices.

Model C3 Gun Burner Announced by Anchor

ANCHOR DIV., Stratton & Terstegge Co., Inc., New Albany, Ind., have introduced the model C3 high pressure atomizing domestic oilburner, rated at a maximum firing capacity of 2.5 gph. The conventional model is supplied with a 14" blast tube, but optional lengths of 9" and 20" are available for flange



Balloffet Design
NOZZLES by
DELAVAN
for
DEPENDABLE, EFFICIENT PERFORMANCE

Save That Precious Oil

The part of the oil burner that controls the flow of oil is the nozzle. The nozzle is the metering device.

It is most important that the orifice and the oil passages in the nozzle be perfectly clean. A partially clogged nozzle will give a poor flame, reduce oil flow and results in poor burner efficiency. Why? Because the oil is not balanced with the air delivery.

It does not pay to clean old nozzles. Good servicemen prefer to install a new nozzle each heating season when they make the annual check up. They know that when they do this they are playing safe and saving money for the customer at the same time.

DELAVAN
ENGINEERING CO.
Established 1937
DES MOINES 9, IOWA

MEMBER OIL HEAT INSTITUTE OF AMERICA OHI

Convert to FIRE-BALL

Let Us Install
YOUR MOTOR
YOUR TRANSFORMER
YOUR PUMP
ON THE NEW
IMPROVED

FIRE BALL CHASSIS

for Extra Economy!
... Extra Efficiency!
Extra Dependability!

WITH SHELL DEVELOPED
Auto-Heat COMBUSTION HEAD

Saves Your Customers Up To 20% on Fuel Bills and Guarantees Better Performance from Any Oil Burner.

WRITE, WIRE or PHONE ABOUT THIS SERVICE
Valuable AUTO-HEAT Franchises Available

Today's fuel oil shortages make economy of operation more important than ever. Converting to FIRE-BALL helps to conserve by making it possible to obtain from every gallon the heat units normally delivered by 5 quarts of fuel oil.

LOOK FOR THE SIGN of THE OIL SAVER

AUTO-HEAT

CORPORATION

"TOP QUALITY OIL HEATING SINCE 1926"

311 WEST 66th STREET **NEW YORK 23, N. Y.**
TRafalgar 3-1700

Manufacturers Of The Famous
AUTO-HEAT
FIRE-BALL BURNER
STANDARD BURNER
All Steel Burner-Boiler Unit
Double-Duty Air Conditioner

fuel oil & oil heat

mountings and installations where a longer tube is required. A large access opening at the rear of the burner permits removal of electrodes and nozzle, while other parts also are accessible for servicing and adjustment.

The burner features a heavy cast aluminum frame and has been constructed to comply with U. S. Commercial Standards CS-75. It burns No. 3 oil, or lighter, and is equipped throughout with standard accessories to simplify repair or replacement of parts, if necessary.

MORE HEAT with LESS FUEL

...that's what every home owner is looking for today!

...and they get just that when you install

The Bethlehem DYNATHERM

in their home!

It's the most compact and complete oil burner on the market today. The BETHLEHEM DYNATHERM with the money-saving, fuel-saving "whirling flame" is within reach of every home owner, regardless how modest the budget. The rapidly whirling, positively controlled flame of the BETHLEHEM DYNATHERM turns every last drop of oil into useful heat.

A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

THE BETHLEHEM FOUNDRY & MACHINE COMPANY

BETHLEHEM, PENNSYLVANIA

Parke-Hill Producing Line Of Boiler, Heating Chemicals

A LINE of chemicals for boilers and heating units is being produced by Parke-Hill Chemical Corp., Mt. Vernon, N. Y., which includes Sludge-Ban, which breaks up sludge, condensates and impurities in light and heavy fueloils and Rust-Ban, "one-shot" treatment for cleaning rusty, corroded and scaly boilers. Soot-Ban, offered in containers ranging from 20 oz. to 400 lbs., removes soot from boiler tubes, fire boxes and doors.

Other products in the line: Boiler-Sealer for stopping leaks in steam and hot water systems; Greas-Ban to clean strainers, nozzles, fuel pumps by dipping, spraying or brushing and rinsing with water; Dri-Scale Ban to eliminate surging and priming in new or oily boilers; Scale-Ban to clean out and prevent rust, scale, sludge and slime in high and low pressure boilers and Bansoil for drying up and removing oil spills or overflows on concrete floors.

Two Hydraulic Gear Pumps Announced By Aro Eqpt.

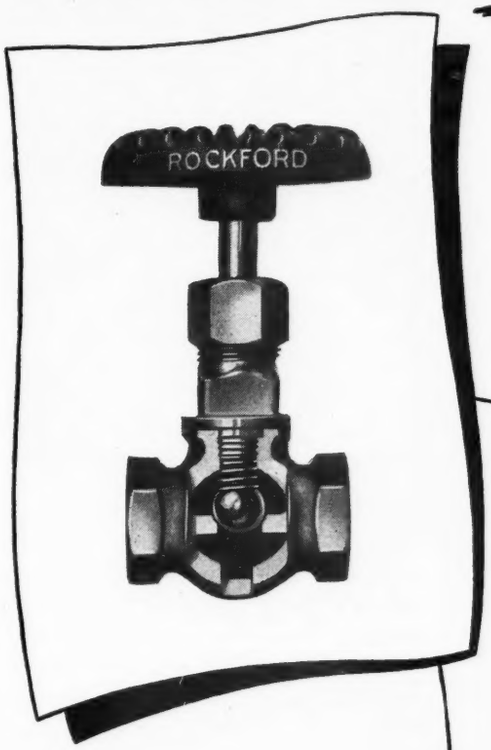
TWO HYDRAULIC GEAR pumps, models 9000 and 9075, have been introduced by Aro Equipment Corp., Bryan, Ohio. They have been developed for continuous service at pressures up to 100 psi, intermittent service up to 1500 psi, and will handle 8 gpm at 1800 rpm and 15 gpm at 1200 rpm. Both types have pilot-type flush mountings for direct attachment to machinery or equipment or to any type of mounting bracket. Either can be directly driven, or used with belt, gear or chain drives.

Flagg-Flow Threadless Fitting For Steel Or Wrought Iron Pipe

FLAGG-FLOW threadless fitting, announced by Stanley G. Flagg & Co., Inc., Philadelphia, Pa., is a black, malleable iron socket type fitting for brazing to steel or wrought iron, the cup of which is reamed to accommodate outside diameter of standard pipe and also to produce a shoulder or stop for the pipe when inserted. The fitting permits utilization of full wall thickness since no metal is lost in threading, and bridges the gap between threaded steel connections and welded or soldered steel or cop-

ROCKFORD *Precision Made* VALVES

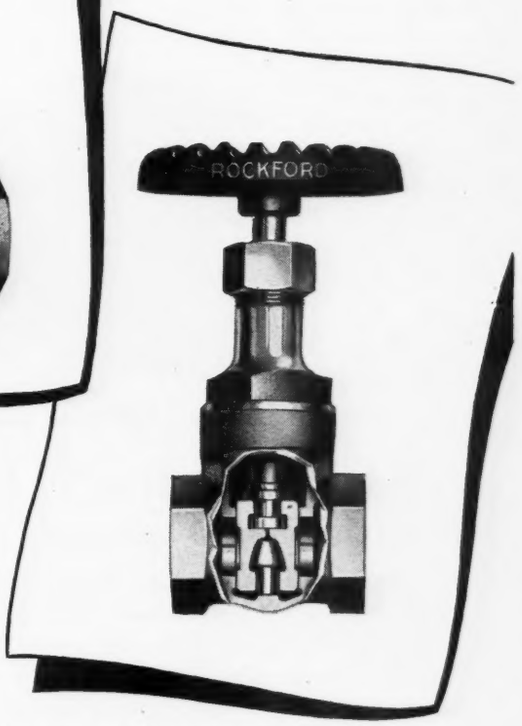
FOR OIL CONTROL



814A ANTI-HUM VALVE . . . Rockford oil burner line control valve throttles out objectionable burner noise with perfectly balanced control. Phosphor bronze ball and spring . . . special Rockford stuffing box with oil proof packing. Made in ⅜" female I.P.S. only.

Ahead in design, Rockford Precision-Made Valves are sturdy, fast-acting, thoroughly dependable, and guaranteed to function efficiently on all jobs for which they are recommended.

No. 814 BRONZE SEMI-PLUG TYPE VALVE . . . Specially designed for oil line service . . . also used for water, air, gas, steam and general purpose. Note cutaway view showing special improved Rockford design of stem and seat. Sizes range from ¼" to 2".



No. 819 BRONZE GATE VALVE . . . Capable of handling jobs, with absolute safety, up to 125 lbs. working pressure. A sturdy, quality built valve with double disc, rising stem and oil proof packing. Thoroughly dependable on oil, water or steam lines. Sizes range from ¼" to 2".

ROCKFORD 18 90 BRASS WORKS

ROCKFORD BRASS WORKS, ROCKFORD, ILLINOIS, U. S. A.

ROCKFORD BRASS *Valves*

fuel oil & oil heat

per connections. Connections with the new fitting can be made by using silver brazing alloys.

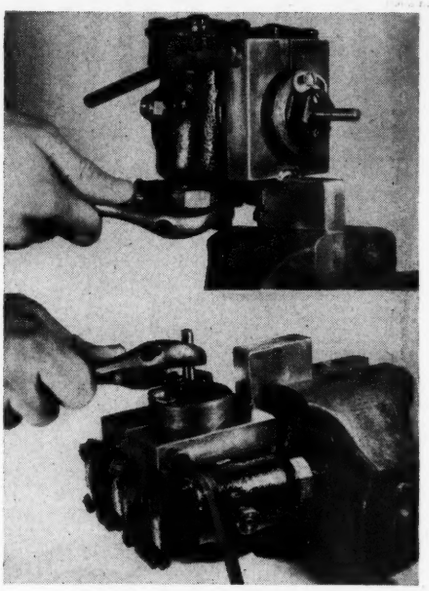
Detailed instructions for use cite seven steps in completing the fitting, all embodied in three simple steps—clean, flux and heat.

Korfund Vibration Eliminator Supports Loads Up To 125 Lbs.

A LOW COST vibration control unit, announced by Korfund Co., Long Island City 1, N. Y., combines rubber and steel springs and has a load capacity from 25 to 125 lbs. per unit. Conical spring design is intended to provide greater horizontal stability and gives the Type RS mounting a wide frequency range. The units have been designed for use on motors, pumps, fans and other units requiring efficient, economical, standardized vibration elimination.

Fuel Unit Holding Jig Announced By Hydrovalve

A UNIVERSAL jig for holding fuel units in a vise has been announced by Hydrovalve Co., New York 18, N. Y. The



jig, designed to hold units at any angle without damaging them, is made of welded steel with a split collar type clamp. The jig allows the use of long wrenches to remove locked or corroded nozzle ports, filters, seals or gear housings.

It can be adapted for use on service trucks, making repairs possible on many fuel units without bringing them back to the shop.

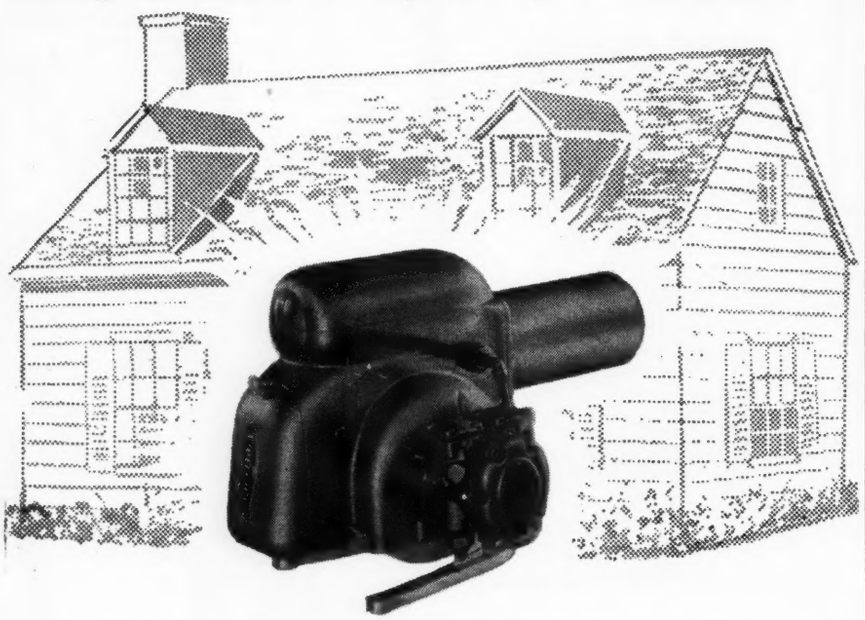
Condensate Return System Eliminates Individual Traps

INDIVIDUAL TRAPS on steam-operated equipment and lines are eliminated by a condensate return system that provides constant flow of steam and rapid return to the boiler of high temperature condensate. W. M. Acker Organization, Cleveland 15, Ohio, the manufacturer, explains that the equipment accumulates condensate by gravity and returns it to the boilers at temperatures up to 350°. Systems are available for steam pressures up to 250 lbs., in a range of sizes for boilers from 10 hp. and larger.

Small Motors Inc. Offers Line for Pot and Gun Burners

AN ANNOUNCEMENT from Small Motors, Inc., Chicago 14, Ill., describes a line of oilburner motors being offered for both vaporizing and gun types. Motors for vaporizing burners range in capacity from 1/100 to 1/60 hp. and are of the shaded pole type without brushes, commutators, slip rings or condensers. They are shielded against radio interference and can be furnished with

Designed with a definite job in mind . . .



HERCO RESIDENTIAL

Model LV1 for small home • 4 to 6 rooms

Yes, Herco Oil burners are designed with a particular job in mind. Take this LV1 for instance, it's economical, efficient— especially if it's placed in the right spot. Herco makes four models and each model has 3 or 4 sizes. Why?—because it takes that many to provide a right burner for each particular installation. Check your orders carefully and ask for the model Herco that will do the job most effectively and economically for your customer.

VISIT OUR BOOTH #309 at the 8th International Heating and Ventilating Show—Grand Central Palace, New York City—February 2-6, 1948.

HERCO OIL BURNER CORP., Lancaster, Pa.

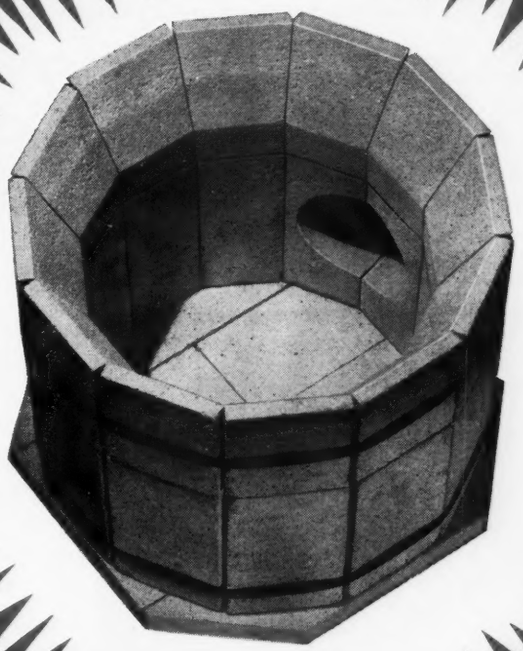
OHI

HERCO
The Oil-Thrifty
OIL BURNER

Western States Representative:
Harold Winningham & Company
1117 Second Ave., Seattle 1, Wash.

The INSTANT-GLO

CUSTOM BUILT



INSULATING BRICK

COMBUSTION CHAMBER

The Top Quality Installation For Maximum Efficiency

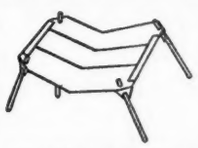
1. The INSTANT-GLO Combustion Chambers are made of special refractory, insulating bricks, which get red hot 10 times faster than ordinary fire bricks, thus assuring an instant red hot refractory surface, resulting in immediate combustion efficiency—result, oil economy as much as 15% greater than that of ordinary hard fire brick chambers.
2. The insulating quality of the refractory bricks eliminates loss of heat into the base of heater—result, all heating energy developed is delivered to heat absorbing sections of boiler or furnace.
3. The round shape of "Instant-Glo" Combustion Chambers eliminates air pockets, thus producing better combustion—and still greater efficiency.
4. They produce much less combustion noise than the usual fire brick chambers—and are especially valuable—really *indispensable*—for quiet operation in hot air furnaces.
5. Each part is taper cut like a keystone bridge—result, the chamber cannot fall in.
6. They can be installed much more quickly than ordinary chambers—in *one hour or less* after boiler is prepared—grate lugs are no longer a problem as a recess can be cut into the back of the brick, with a pocket knife, at the point where the lug interferes, without spoiling the combustion surface of the chamber—result, lower installation cost for you.
7. The quick, efficient, money-saving and dependable heating they make possible impresses your customers with the high quality of your installations—and will help you sell more burners.

SIZES:
No. 1 or 1A—1.00 to 1.35 gals. per hour
No. 2 or 2A—1.5 to 1.75 gals. per hour
No. 3—2.00 gals. per hour

Each chamber packed complete in special partitioned cartons . . . no breakage . . . package unit.

Model 1A & 2A *(right)*

Special chambers for steel furnace installations



BOSTON CHROME STEEL BAFFLE—MODEL 100

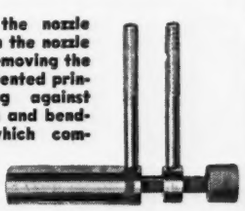
Improves combustion and reduces stack loss for greater heating efficiency. Write for complete details.

The Apthorp TRUE ALIGNMENT OIL BURNER NOZZLE

Accurate in gallonage and spray angle . . . the patented "TRUE ALIGNMENT" feature guarantees perfect taper-to-taper fit within the nozzle. Every nozzle spray tested. Solid spray and hollow spray available. Nozzle data sheet supplied on request.

IDEAL NOZZLE EXTRACTOR

Easy to remove the nozzle from or install it in the nozzle adaptor without removing the gun assembly. Patented principle safeguarding against breaking porcelain and bending electrodes which commonly happens when ordinary wrenches are used. Special socket for disassembling nozzle.



CLEARVIEW OIL TANK GAUGE

Will not leak . . . clearly visible at a distance . . . designed for years of accurate service.

WRITE FOR COMPLETE INFORMATION

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division

BOSMACO

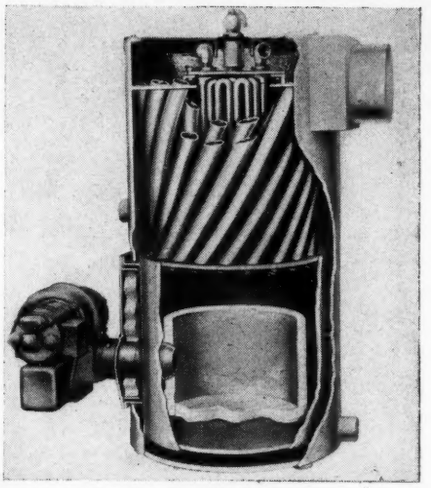
7-17 WILLOW ST., LYNN, MASS.

or without internal ventilation fan. Model SP-37 for vaporizing burners is designed for 60 cycle, AC only, 1650 rpm, 1/4" and 5/16" shaft, weight 1 1/2 to 3 lbs.

Model SM-5 for gun type oilburners is available in sizes up to 1/8 hp. and can be furnished with NEMA oilburner flange mounting, resilient and rigid base mountings. The motors, measuring 6 1/2" in length, plus shaft extension, 4 3/4" in diameter, may be wound for split phase, capacitor or polyphase in speeds of 1130, 1725, or 3450 rpm. They are furnished with sleeve bearings and weigh 9 to 10 lbs., depending on horsepower.

Mt. Hawley Boiler Units Feature Spiral Flue Passages

MT. HAWLEY MFG. CO., Peoria, Ill., manufacturers of Everedy and Oiltronic conversion oilburners, announces a companion line of boiler-burner units, consisting of seven models, with capacities ranging from 104,000 to 1,043,000 Btu/hr, firing rates of 0.65 to 10.0 gph.



The "Spiral Flue" feature of the boilers is a patented improvement which consists of setting flues at an oblique angle to retard passage of hot gases. The design permits the flues to expand in the middle when heated, reducing stress and strain. All controls, stack and outlets are located on the sides of the unit. The top, which is completely clear, can be removed readily for inspection or to gain access to flues for cleaning.

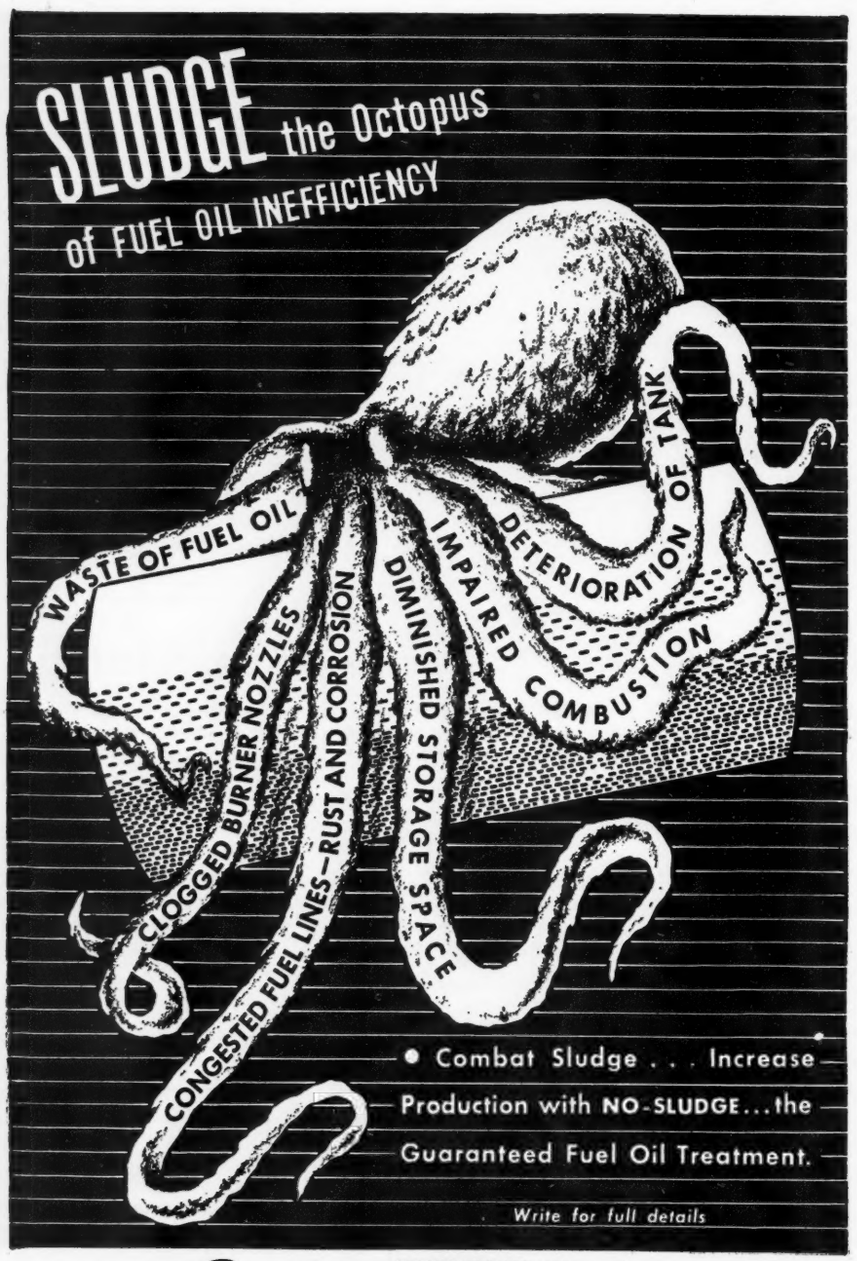
Burner, boiler and jacket are packed separately to simplify installation. All-steel construction is employed, and the boilers are well insulated and housed in a rectangular jacket. Units are hydrostatically tested at 200 lbs., and all can be furnished with a non-corrosive copper coil for domestic hot water.

Pokorney Series 1000 Valves Announced In Five Sizes

FIVE SIZES of a new spring check valve, designated series 1000, are announced by Pokorney Mfg. Co., Chicago, Ill. The piston-operated and spring-loaded valves are offered in 1/8", 1/4", 3/8", 1/2" and 3/4" I.P.S. screwed ends, designed to provide a positive check to water, air, gas or oil. Valves are cast from high grade bronze and individually tested after machining.

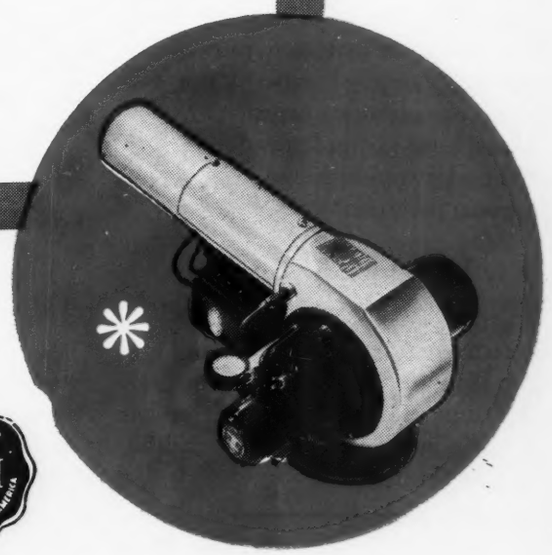
Announce Rotocycle Pump With Fixed Volume

A ROTARY, positive displacement pump, developed by Hydraulics Div., Rockwell Mfg. Co., Pittsburgh 22, Pa., is of the fixed volume, double acting type, with all operating parts held in hydraulic and dynamic balance. Rotor assembly is suspended within the pump body on a horizontal drive shaft, carrying four, half-moon shaped impeller vanes, geared to-



Dominion CHEMICAL CO., Inc.
WATER CONSULTANTS AND CHEMISTS
FOR INDUSTRIAL AMERICA
11 WEST 42nd ST. · NEW YORK 18, N. Y.
Canadian Distributor: THOMAS ROBERTSON & CO., LTD.

10 reasons why these SUN-RAY Models are attracting new dealers



1 **CAST-ALUMINUM FRAME** accurately machined—for positive concentric alignment, silent operation

2 **ALL PARTS** machine-ground to 0.001" tolerance, fitted by expert mechanics

3 **FUEL UNITS** by Webster or Sundstrand

4 **TRANSFORMER** heavy-duty—with built-in radio-interference eliminators

5 **MOTOR** Ohio or General Electric—with built-in overload protection

6 **AIR CONTROL** combines air diffusers with stabilizers of unique design for perfect mixing, quiet combustion, economy

7 **EACH BURNER** individually tested before it leaves the factory

8 **SIX SIZES** — ¾ to 25 g.p.h. — a model for every heating need

9 **PROFIT POTENTIAL** second to none — a full line of burners that has *everything*, plus full distributor cooperation

10 **RELIABILITY** — one of the oldest and largest oil burner manufacturers

INDEPENDENT
REG. U.S. PAT. OFF.
FULLY AUTOMATIC
OIL BURNERS

139-24 Queens Boulevard, Jamaica, N. Y.

Independent's SUN-RAY models are *the* burners to sell. They have everything—time-tested quality backed by 40 years of heating experience—highest quality parts and workmanship—every burner factory-tested for efficient operation before shipment —the approval of all leading authorities—satisfied dealers—complete dealer and distributor co-operation.

Look over the list of features, and you will see why these burners can be sold in competition with any other burner made.

**Illustrated: Model 2C12, rated 10 to 25 g.p.h., with twin ignition, twin nozzles, twin transformers.*

WRITE FOR FULL DETAILS

Independent Oil Burner Corporation
139-24 Queens Boulevard
Jamaica, N. Y.

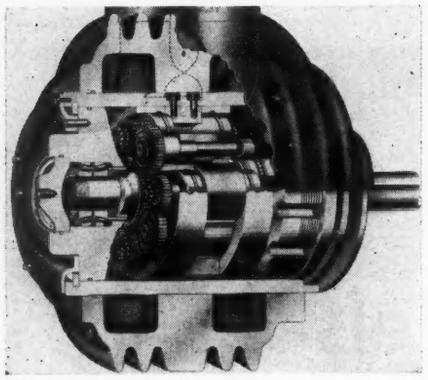
Please send literature and full details on your SUN-RAY line of oil burners.

Name .....

Company .....

Address .....

City..... Zone..... State.....



gether in 2 to 1 ratio. As the rotor is turned, the position of the vanes varies but always so that each pair of diametrically opposed vanes forms two closed compartments per rotating cycle. Liquid being pumped provides capillary sealing between high and low pressure areas in the working chamber.

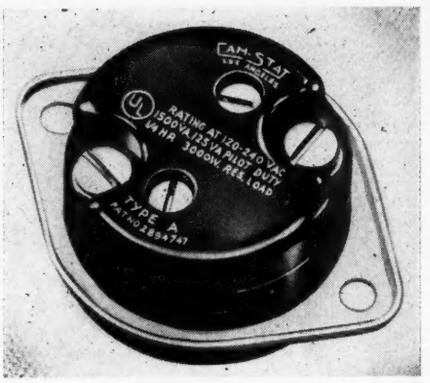
Weathertherm Air Heaters Employ Criss-Cross Tubes

DIRECT-FIRED heaters in sizes with output capacities from 75,000 to 5,000,000 Btu comprise the Weathertherm line recently introduced by Weatherall Engineers, Inc., Providence 4, R. I. The heaters are specifically designed to heat large spaces, such as garages or factories, with or without distribution ducts, and feature a series of criss-crossed, diagonally-placed air heating tubes located directly over the fire. The tubular steel construction of all heating surfaces, and elimination of heat traps or baffles, prevent accumulations of soot, while the diagonal tubes provide for confined air travel. The air moving through the tubes is heated to a high temperature and then mixed with cooler air volumes which circulate around the entire core. A permanently sealed breeching is enclosed in the air stream.

Filtered, humidified air may be introduced, if desired, through conveniently located grilles or registers and the units can be adapted also for added features of cooling, dehumidifying and air washing.

Cam-Stat Heater or Furnace Temperature Limit Control

A VARIATION of the company's basic type A control, a new automatic temperature control for direct line or low voltage application, offered by Cam-Stat, Inc., Los



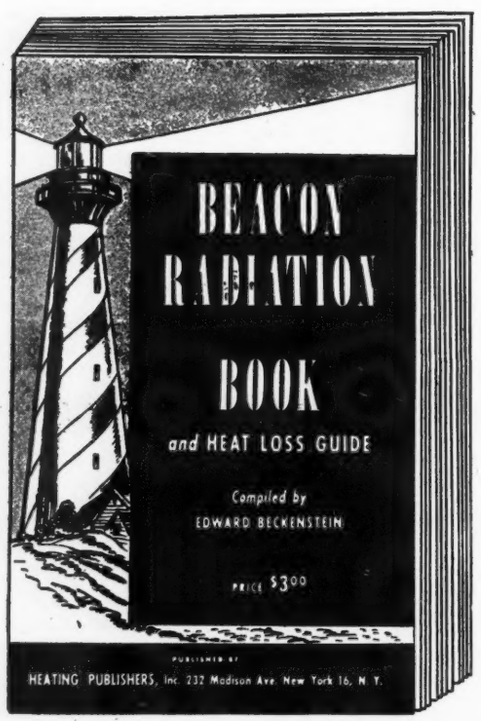
Angeles 34, Cal., is designed as a high limit control on unit heaters and forced warm air furnaces. The compact control measures only 1-9/16" in diameter, 1-13/32" in depth, and affords temperature ranges adjustable from 50° to 350° F., or can be factory set to designated specifications.

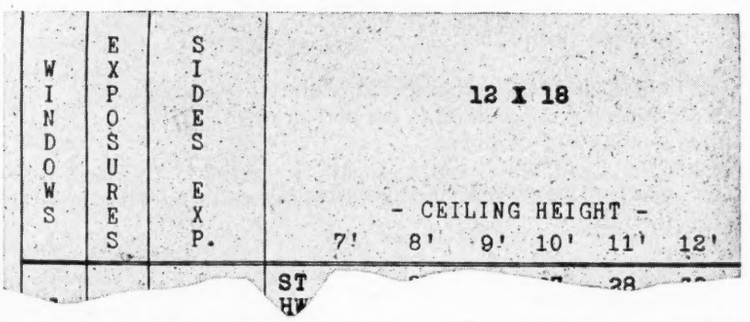
Another unit, identical in size to this new model Type A, is available for control of fans on unit heaters and forced warm air furnaces.

Oneida Winter Conditioners Fired With Gun Type Burners

TWO SIZES of Oneida oilfired winter air conditioning units are fired with pres-

RADIATION *at a glance*





DEALERS ● SALESMEN ● ESTIMATORS!

You need this time-saving book to give you the answers quickly, and without measuring and calculating.

STEAM AND HOT WATER RADIATION REQUIRED FOR EVERY ROOM FROM 5 x 5 to 20 x 30 FT. A SINGLE VOLUME OF 175 TABLES

This pocket-size book shows the required radiation for all rooms of ordinary size with from one to three windows, one to three exposures, and every combination of walls exposed. Figures are based on calculations of the space by the Btu method on a 0° to 70° design temperature. A table shows corrections for other design temperatures.

Other sections of the book show the square feet of radiation in each section of radiators of various styles and designs. A wealth of information on required radiation that can be carried easily in a pocket or brief case, or used as a desk reference.

BEACON RADIATION REFERENCE BOOK AND HEAT LOSS GUIDE

Order Your copy today: Check or money order with order: $3.00. If sent COD: $3.25. We ask that you send your check if at all possible, as we wish to avoid bookkeeping on the thousands of book orders we receive.

HEATING PUBLISHERS, Inc., 232 Madison Ave., New York City 16

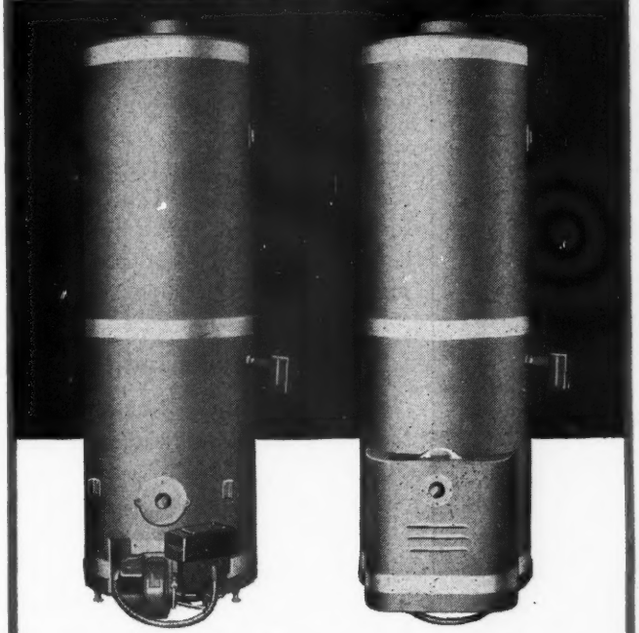
HERE IT IS!

The NEW Model

PERCO-FLASH

Reg. U. S. Pat. Off.

Oil Fired—Hot Water Heater



The "Perco-Flash" Hot Water Heater with cover for the "Ball Flame" Oil Burner removed.

The same model "Perco-Flash" with the cover for the Oil Burner in position.

—with the sensational tube-within-tube principle that heats water faster by high speed circulation. Hot water is always clean and fresh for interior clogging and corrosion are effectively prevented.

PERCO-FLASH is a complete packaged unit incorporating the outstanding KRES-KNO BALL FLAME Oil Burner for greater efficiency and low cost operation.

Your Guide To

BETTER HEATING—

of small and average size homes. The KRES-KNO BALL FLAME Automatic, Vaporizing Oil Burner —a quality burner adaptable to manufacturers' units and simple to install for conversion.

SEE

the New PERCO-FLASH Heater at the 8th International Heating and Ventilating Exposition, Grand Central Palace, New York City—February 2-6, 1948. Booths 1479 & 1480.

OHI

KRES-KNO Brand

KRESNO-STAMM MANUFACTURING CO.

Oil Burning Equipment . . . Since 1927

General Offices and Plant: 341 Commercial Avenue, Palisades Park, N. J.
Canadian Offices: 1452 Drummond Street, Montreal—Factory, Granby, Quebec
European Offices and Plant: Roscommon, Eire

Gives Superior Performance
WHEREVER PLENTY OF HOT WATER IS NEEDED

Ideal for Radiant Heating

Economical and Compact

IDEAL FOR

Single dwellings, apartment houses, barber shops, beauty parlors, bakeries, restaurants, gymnasiums. Will handle 500-gallon auxiliary tank.

Comfortzone

Oil-Fired

WATER HEATERS *and* BOILERS

MODEL 200

Delivers 138,000 B. T. U. at outlet. Suitable for radiant or radiator heating for the moderate home with ample capacity for domestic hot water.

LOCHINVAR PRODUCTS

A Division of

MICHIGAN TANK & FURNACE CORP.

14247 TIREMAN AVE. • DEARBORN, MICH.

sure gun type oilburners, rated at 1.35 and 1.0 gph capacity. Model 3000, fired with the smaller burner delivers 107,000 Btu at the bonnet, 91,000 at the register; model 4000 delivers 153,000 and 130,000 Btu at the bonnet and register, respectively. The units, manufactured by Hart & Crouse Corp., Oneida, N. Y., incorporate all the elements needed for complete winter air conditioning. Model 4000 includes a preheater, which warms air after it passes through the filters, but before the blower delivers it to the heavy gauge, welded heating chamber.

The base of the 4000 unit is constructed of a single piece of steel upon which rests all internal parts, eliminating the need for cementing the unit to the floor. Automatic controls furnished as standard equipment include a bonnet and blower control, room thermostat and primary control installed in the smoke pipe.

Midco Registers and Floor Faces

MIDCO Register Corp., St. Paul 5, Minn., currently has available a complete line of Thermo-Flex registers and intakes. The registers, which may be adjusted 45° up or 45° down with a special tool, range in size from an 8 x 6" stackhead up to 30 x 6", free area for the same sizes, ranging from 35 to 128 sq. ins. The adjustment of the registers, made possible by its soft steel construction, is simple and normally requires no more than a few minutes per register. As furnished Thermo-Flex units are shipped with 14° downward deflection, side-operating device, piano-type damper hinge and "non-whistling" damper. Baseboard registers are furnished with solid flanges. Four styles of register frames are offered to take care of all types of installation. Damper controls also are available.

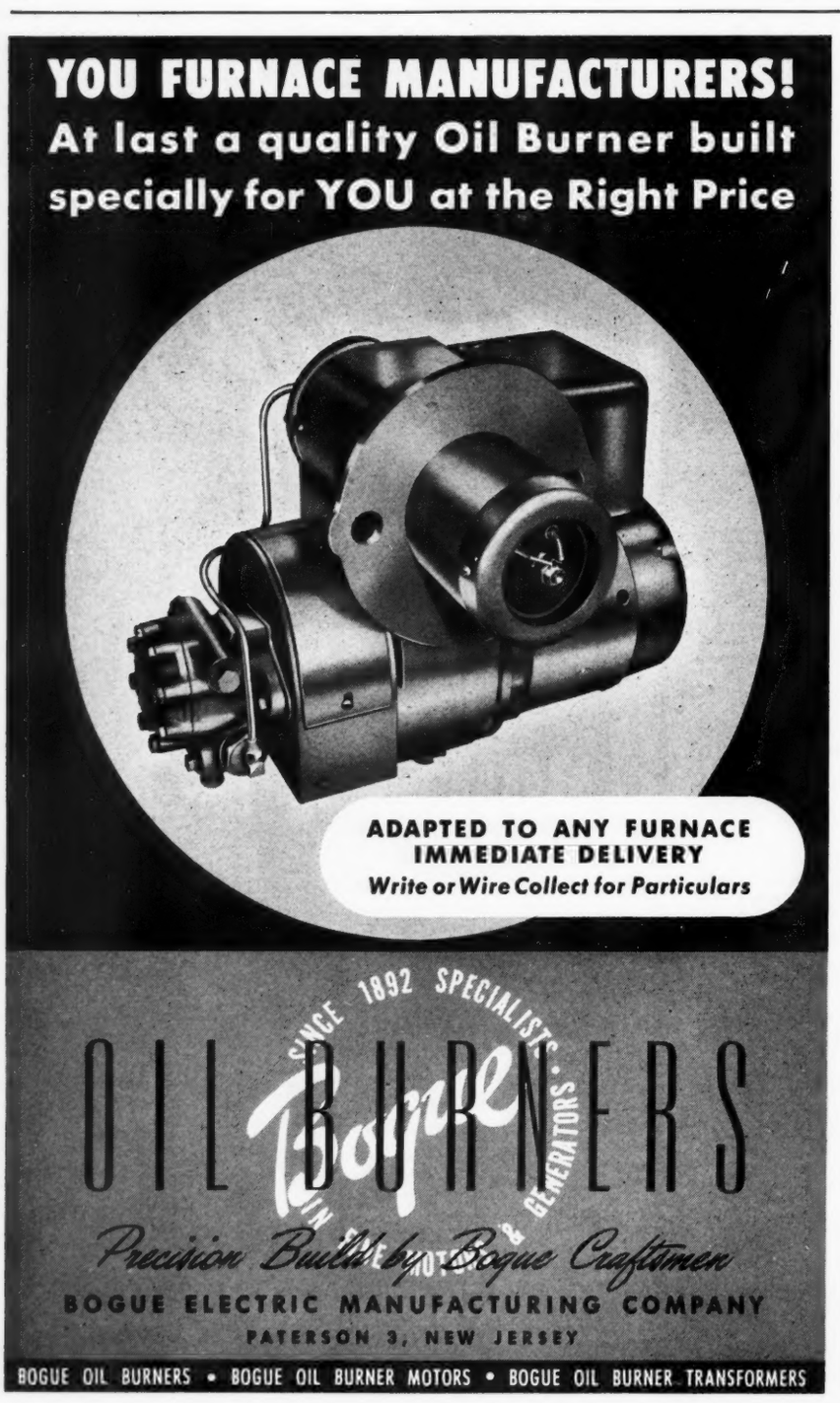
Dura-Steel floor faces, made in twelve sizes, are attractively and strongly made. The smallest size, 6 x 12", is designed for 8" pipe, 57 sq. ins. free area; the largest, 12 x 30", will accommodate 18" pipe, 302 sq. ins. free area.

Excess Smoke Indicator

PHOTOSWITCH INC., Cambridge 42, Mass., has designed an excess smoke indicator, Type 2A10C, consisting of a photoelectric control, light source and Densometer, all of which gives a continuous indication to the boiler room of condition of gases passing through the flue, signalling when either smoke or air are sufficiently excessive to cause inefficient combustion or produce smoke. Photoelectric control and light source are mounted on opposite sides of the flue, with the beam from the light source projected through a small opening in the flue to the control eye. Densometer, located on boiler room instrument panel board, indicates combustion conditions.

Sudbury Solution Prevents Rust Formation In Tanks

A LIQUID SOLUTION has been developed by Sudbury Laboratory, South Sudbury, Mass., to prevent the formation of rust deposits in all types of tanks holding petroleum products. The solution is heavier than water, so that when it is added to the contents of a tank it goes directly to the bottom, mixes with the water and neutralizes any acid that may be present. It has an affinity for rust and is designed to cover the sides of the tank with an air-tight film to prevent oxygen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At last a quality Oil Burner built specially for YOU at the Right Price
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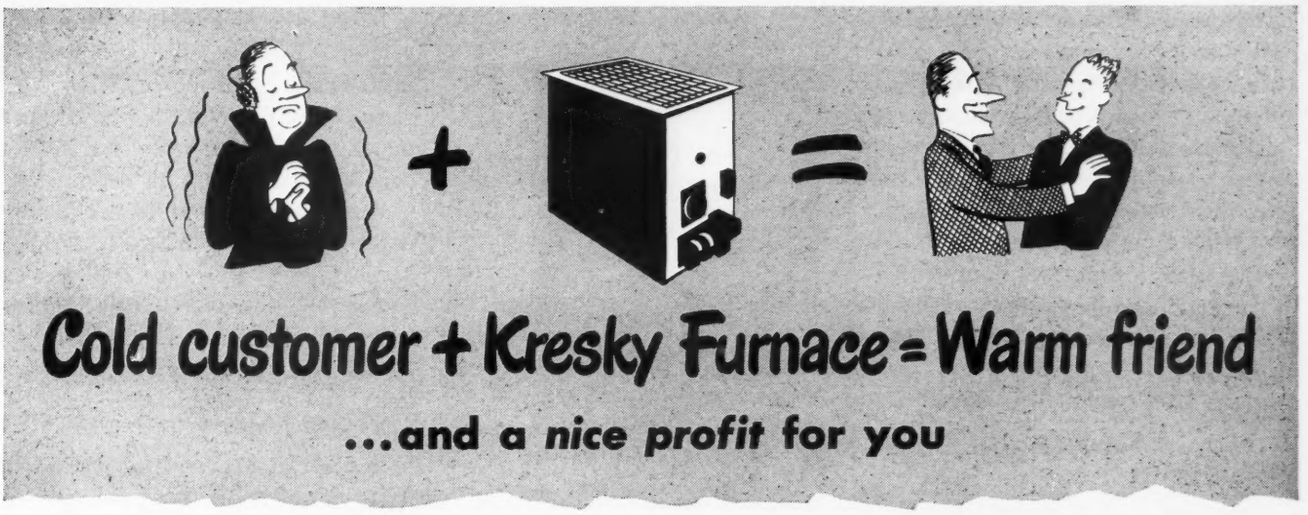
BOGUE OIL BURNERS • BOGUE OIL BURNER MOTORS • BOGUE OIL BURNER TRANSFORMERS



Cold customer + Kresky Furnace = Warm friend

...and a *nice profit* for you

Install the KRESKY *Evenheat* Oil Floor Furnace in the new or remodeled homes of your customers and they're sure to tell others that you certainly "did right by them." And that sort of thing snow-balls, you know. The Kresky *Evenheat* is one of the most popular oil furnaces on the market today, and here are a few reasons why:

Low initial and operating cost

The famous patented Kresky burner, basic unit of *Evenheat*, is simplicity itself, allowing us to effect many savings in manufacturing costs—savings we pass on to you. Immediate heat from a fire that is *always* clean —soot free—and hot, assures warmth when you want it—and less oil consumption.

Very easily installed

A Kresky *Evenheat* floor furnace is almost a plug-in unit, it's that easy to install. Requires only three feet of clearance under the floor—less than any other comparable heater.

Always clean instant heat

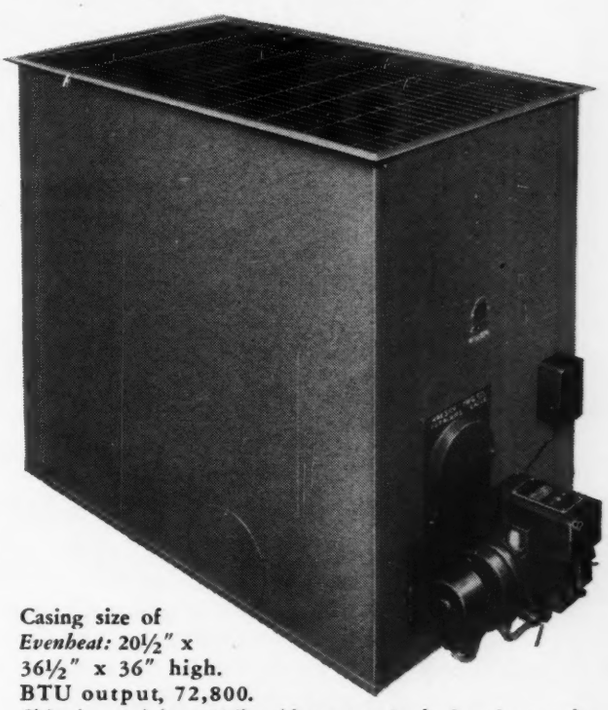
Air is mixed with the gases from the oil in the burner in just-right amounts by an electrically operated blower to give instantaneous clean heat, which is then forced through the home by a circulating fan.

Safe as safe can be

The Kresky *Evenheat* is completely enclosed in a double casing separated by adequate air space. This insulates the furnace, keeping the outside casing cool—an important safety feature.

Automatic and really rugged

Intake of oil and air induction are so synchronized that you get clean healthful heat in amounts you want when you want it without the slightest bother. The best of heavy gauge steel and the finest of materials, plus the famous Kresky workmanship is your guarantee of long life and complete customer satisfaction.



Casing size of *Evenheat:* 20½" x 36½" x 36" high. BTU output, 72,800. Shipping weight, 237 lbs. Also comes in dual register and super models. Write for our 1948 catalogue for information about our full line of commercial and domestic ranges and furnaces. Increased plant facilities allow us to make faster deliveries on all models.

NOTE TO DEALERS

If you are interested in a dealership, please let us know. There may be an opening in your locality.

Kresky OIL BURNERS

Listed by Underwriters' Laboratories, Inc.

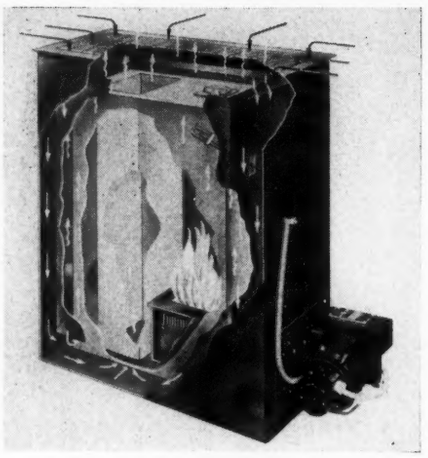
KRESKY MANUFACTURING COMPANY

Petaluma, California

fueloil & oil heat

from coming in contact with the metal.

Recommended amounts of the solution are 6 oz. for each 100 gals. of capacity, in tanks where application is made through a feed line. Applications, says the manufacturer, are most effective when made once a year or whenever water is drawn off from tanks.



Roberts Floor Furnace Develops 52,000 Btu

MODEL AK-101 oilfired floor furnace, announced by Roberts Furnace, Detroit 16, Mich., has been approved by Underwriters' Laboratories for automatic temperature operation and is designed for small homes installation. The unit develops 52,000 Btu and can be installed under the floor without cutting joists or building headers.

Width of the unit is 14", length 30", depth 35", with a 6" flue pipe; shipping weight totals 165 lbs. The unit is equipped with a draft booster blower, heavy steel, electric-welded heat exchanger and rust and corrosion-resistant casing and air separator. Floor grille has oak finish.

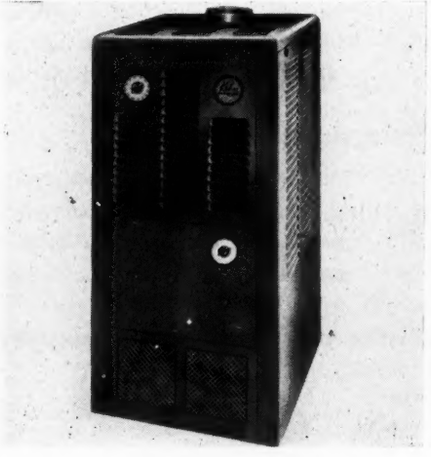
Topp's Triumph Oilburner Is Vaporizing, Manifold Unit

MODEL A Topp's Triumph oilburner, developed by A. A. Topp, Indianapolis 18, Ind., is a vaporizing conversion unit, equipped with an overhead manifold. The burner operates on gravity feed, with capacity sufficient to heat small homes up to four rooms. Present company plans contemplate introduction of larger models.

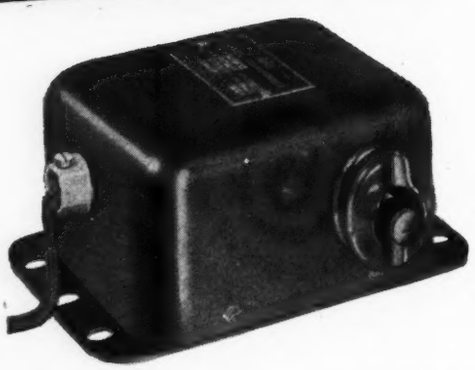
Approved by Underwriters' Laboratories to burn No. 1 oil, the burner is designed for manual lighting and manual temperature control. A constant level valve, with antiflooding device, is standard equipment.

Kehm Free-Air Space Heaters Have Large Heat Capacity

FREE-AIRE oilfired heaters, announced by Kehm Corp., Chicago 3, Ill., can be used as ordinary space heaters, can be adapted to pipeless furnace installation or connected to conventional duct systems. A mechanical draft "Ball Flame" vaporizing oilburner, which fires the unit, is equipped with a 1/40 hp. motor and at



AVAILABLE *Now* Shipments FROM STOCK!



TROUBLE-FREE SERVICE

Dongan Transformers have long been used on leading makes of oil burners. For long life and dependable service, you can't beat a Dongan! Listed as standard by Underwriters' Laboratories.

DONGAN ELECTRIC MFG. CO.
2981 Franklin Detroit 7, Mich.

The Dongan Line Since Nineteen-Nine

WRITE FOR LITERATURE

DONGAN TRANSFORMERS

7/10 gph maximum capacity. The cast iron smoke box is connected to the fire pot by three steel 6" tear drop tubes, over which air is blown on its way to the front discharge grille.

Combination of any heater fan speed, up to 600 cfm, and a wide range of oil delivery is available. Units have a maximum Btu output of 70,000 and can be furnished for manual operation or with electric head and thermostat control.

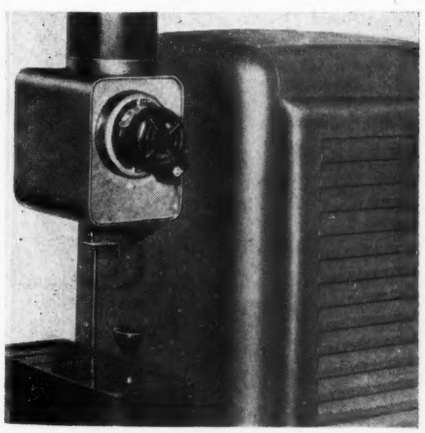
Artcraft Direct Fired Heater Announced By Chicago Furnace

CHICAGO STEEL FURNACE CO., Chicago 17, Ill., manufacturers of Artcraft heating and air conditioning equipment, announces four sizes of direct-fired space heaters, with capacities of 350,000, 500,000, 750,000 and 1,000,000 Btu/hr. heat delivery. The heaters may be fired with gas or gun type oilburners and are available with side or rear blowers.

Three individually-driven blowers are employed to drive air over the heat exchanger. Ordinarily the blower underneath the fire box starts first, followed by the blower located under the center of the unit after more air is heated within the casing and, finally, the third blower, at the rear of the unit starts. The blowers cut off in reverse series so that air delivered remains at a uniform temperature.

Perfection Stove Develops Superdraft Heater Regulator

SUPERDRAFT regulator to overcome weak or faulty chimney drafts as an aid to better and more effective combustion, has been perfected by Perfection Stove Co., Cleveland 4, Ohio. The regulator is electrically-operated and is simple to install in the heater stove pipe. Application of the Superdraft is designed to assure clean-burning, full-bodied flames under adverse draft conditions.



Sulflo Introduces Boiler Seal, Water, Fueloil Compounds

THREE new products announced by Sulflo, Inc., Elizabeth 4, N. J., will be distributed solely to the heating trade and will not be made available to the general public. Sulflo boiler seal repairs leaks in low or high pressure boilers and hot water systems and also seals sand holes, poor threads, split nipples and cracked castings in pipes and fittings.

Boiler water treatment represents a product that eliminates rust, scale and oil, all three of which are causes of foaming and surging. The colloidal base, of which the material is made, conditions the water so that not only is rust prevented from forming, but the metals are protected against corrosive action.

The fueloil treatment compound, added directly to the tank, absorbs all water in the tank, checks corrosion, dissolves sludge-forming hydrocarbons and contains specially-developed catalysts to reduce soot formations.

Send for this Valuable Bulletin

Without any obligation on your part, we'll send you a copy of this interesting new bulletin.

It explains how you can do away with the time-and-money-wasting job of pouring or building a floor when you install a Combustion Chamber.

Explains how to prevent breakage of Combustion Chambers and mixing the pieces.

Tells how to install Chambers in one third the time, and at less cost, than brick or ordinary precast chambers.

It contains a wealth of other information which should be of practical help to every one who buys or installs Combustions Chambers.

Write now for a free copy of Bulletin OB-99 or simply mail the coupon.

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Without obligation on my part, you may send a free copy of your Bulletin OB-99.

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Municipal Smoke Regulation Aimed to Curb Air Pollution

A TREND toward the adoption of more stringent municipal smoke control ordinances and more effective enforcement of existing ordinances, which tends to spur conversion to automatic heating equipment, is spreading throughout the country despite fuel supply difficulties, a survey discloses.

While recent developments show an increasing awareness that there is no panacea offering a quick cure for the air pollution nuisance in either large or small cities, they also reflect a growing public determination to solve the problem. Besides representing a huge economic waste in fuel costs, air pollution has been estimated to cost the average urban resident about $30 a year in cleaning clothes, painting buildings and medical treatment for respiratory ailments.

Among the cities most recently adopting new smoke control ordinances is Omaha, which has a new measure based upon a model suggested by the American Society of Mechanical Engineers. It requires permits for installation or alteration of any fuel burning equipment, sets standards for the degree of smoke that will be tolerated, calls for annual city inspection of heating equipment, and establishes penalties for violation. Its administrative personnel includes a smoke regulation engineer, an advisory board and an appeal board.

Other cities which have recently adopted stringent smoke control ordinances, which in a number of instances also regulate the emission of soot, dust and poisonous fumes, include Detroit, Richmond, Akron, Salt Lake City, Providence, Niagara Falls and Cincinnati.

A proposed local measure that would prohibit dense smoke and provide heavy penalties for violators was recently introduced in the New York City Council. Shortly after the proposal for a more stringent local law was made, Mayor O'Dwyer announced that progress was being made in an anti-smoke campaign begun last February by the city health department, which is charged with enforcement of provisions of the city sanitary code governing smoke emission.

Eliminate Smoke Nuisances

In summarizing progress made in New York City's efforts to fight smoke without general resort to stringent penalties, Mayor O'Dwyer announced that contracts involving expenditures of $8,062,400 to eliminate smoke nuisance had been let by 102 privately operated heating plants. He also said the City Board of Transportation's $8,500,000 program for enlargement of the subway power plant contemplated smoke nuisance elimination.

Consolidated Edison Co. has authorized expenditure of $5,400,000 for correction of smoke and cinder conditions at all its power stations by 1951. The improvements contemplated were listed as ranging from $500,000 to be spent by the American Telephone & Telegraph

Thank You Mr. Distributor and Mr. Jobber!

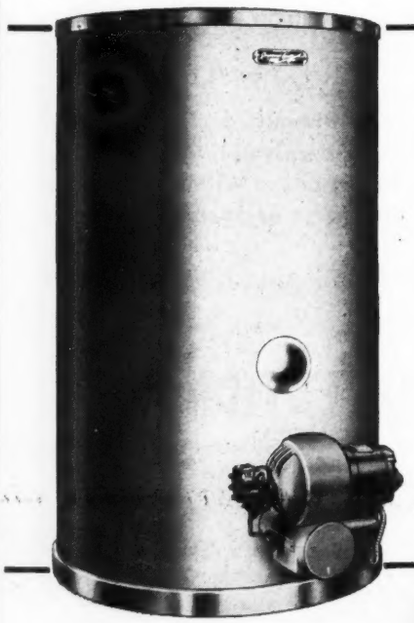
...for your enthusiastic reception of the

BROWN ELECTRIC

AUTOMATIC OIL-FIRED BOILER-BURNER UNITS

Hot Water Heating • Steam Heating • Domestic Water Heaters

The Units That Pay For Themselves in Fuel Savings!

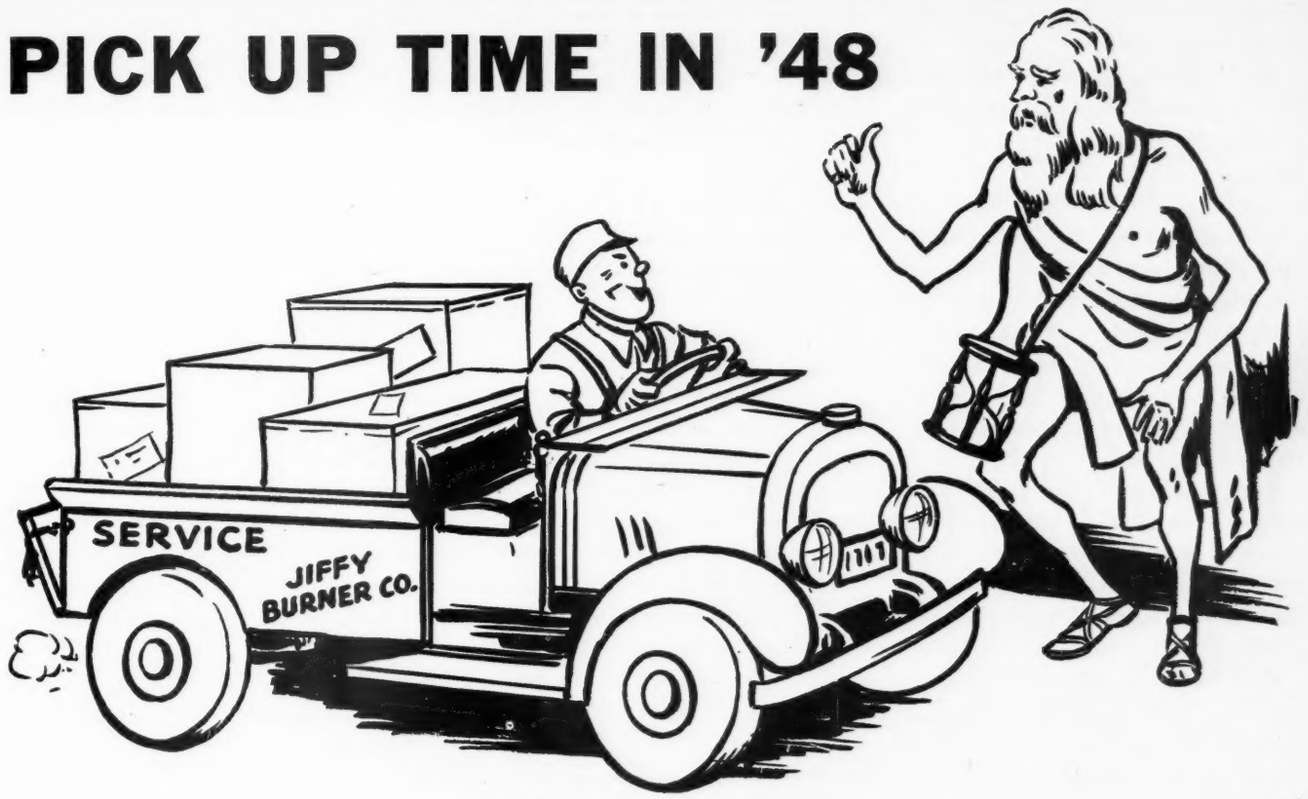


As you know, these units are completely arc welded from heavy boiler plate and boiler tubes—the most substantial and durable construction possible. Attractively finished in Gray Hammerloid with chromium trim—a beautiful finish in keeping with the quality of its interior construction.
They are made in 6 sizes, with radiation ranging from 300 square feet through 2160 square feet. BROWN ELECTRIC boilers are of the vertical, tubular, *percolating system* type, equipped with nationally known Underwriters listed oil burners. These boilers are NOT a "conversion" job, but engineered and constructed especially for gun type oil burners. Boilers and Heaters are insulated with 2 inches of Rock Wool.
For an abundant supply of instantaneous hot water, an internal Copper Coil can be supplied with each boiler. This coil can be easily removed and replaced. Domestic Hot Water Heaters (*thoroughly galvanized within and without to prevent rust or rusty water*), are built on the same principle as the Automatic Oil-Fired Steam and Hot Water Boiler. Made in six sizes, from 65 to 650 gallons per hour.

Complete Units on Display
at Booth Number 215
Eighth Air Conditioning Exposition
INTERNATIONAL HEATING & VENTILATING EXPOSITION
Grand Central Palace, New York, Feb. 2 to 6, 1948

BROWN ELECTRIC COMPANY
Forest Hills, New York

PICK UP TIME IN '48



with PACKAGE 77--SUNDSTRAND or POLO

When you save TIME...you please the customer

(because no one is happy when the house is cold)

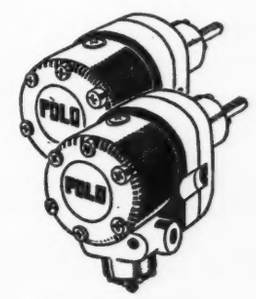
When you please the customer, you please yourself.

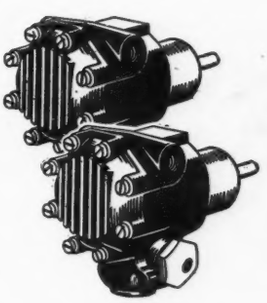
(because it is pleased customers who ring the cash register)

When you save TIME, you save on your biggest expense—your service man's time! Servicemen earn money in the customer's cellar not traveling back and forth. Get him off the job quicker so that he can please more customers.

You save the service car expense, too. It costs money to run the car—especially on icy roads and stormy weather.

When your service car is equipped with a Sid Harvey Package #77, your serviceman has the EXACT PUMP REPLACEMENT for practically every standard burner (over 750 models). No more running back to the shop—no more temporary installations. He can finish the job quickly and permanently.





It doesn't matter which rotation you need—or which side the nozzle is on, or how it is mounted, or the shaft size, or the nozzle line size. You have the proper fuel unit and the Harvey accessories that go with Package #77 give you everything that you need.

All you need to do is to pick the make of fuel unit you want and order one today. Thousands of servicemen have told us it's the best money maker in their service car.

PACKAGE 77 with two SUNDSTRAND S-1 Fuel Units **$40.10**

PACKAGE 77 with two POLO Fuel Units **$38.60**

For trade only—see catalog for complete description.

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Co. to $200 or $300 by owners of small apartment houses.

The 1947 session of the New York State legislature created a commission to study the smoke nuisance and means for abating it, particularly in Queens.

Adoption of a stringent smoke control ordinance has been proposed in Philadelphia, which now has an ineffective ordinance on the subject enacted in 1904. Amendments to strengthen existing smoke abatement ordinances also have been proposed recently in several other cities, including Des Moines and Indianapolis.

Proposals for more effective local legislation to curb air pollution also were advanced recently in St. Louis, which is widely acclaimed as having conducted the most successful anti-smoke campaign of any city.

A stringent anti-smoke ordinance is now in full effect in Pittsburgh, which hopes to rid itself of the reputation of being one of the nation's smokiest cities. Although the Pittsburgh ordinance was adopted in 1941, its full application was delayed because of war conditions. It has now been extended to cover 142,000 coal-burning private homes in the city, as well as all buildings, railroads and factories.

Many other cities this year have taken steps toward more effective enforcement of existing smoke control ordinances, including Baltimore, Cleveland, Chicago, Memphis and Louisville.

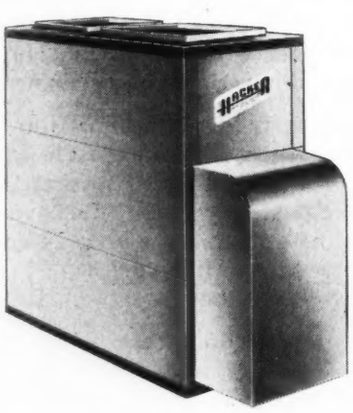
In an increasing number of sections of the country the need of attacking the smoke control problem on an area basis is being recognized. A bill enacted this year by the California legislature authorized Los Angeles County to create an air pollution control district with the necessary powers to enforce its rules. The Wisconsin legislature approved a bill permitting Milwaukee County to adopt and enforce a county-wide smoke control ordinance. Pennsylvania's legislature has authorized Allegheny County (Pittsburgh) to take similar steps.

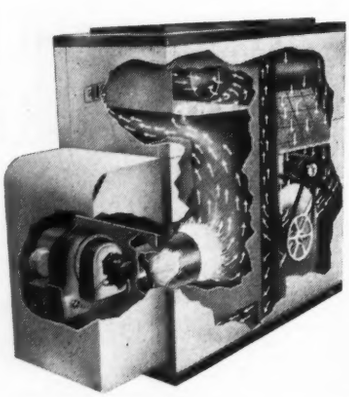
Area control also is being sought in Kansas City. A recommendation was made there recently for adoption of a model smoke ordinance by Kansas City, Kan., and North Kansas City as well as by Kansas City. County-wide control was recently proposed in Baltimore.

Home Builders Assn. Meets Chicago Feb. 22-26

THE 1948 ANNUAL CONVENTION and exposition of the National Association of Home Builders will be held in Chicago, February 22 to 26, at the Stevens and Congress Hotels. The announcement was made by W. Hamilton Crawford, Baton Rouge, La., who is chairman of the convention and exposition committee for the second successive year.

Paul S. Van Auken, convention and exposition director, has stated that virtually all exhibit space is sold. In commenting on the significance of the exposition, Van Auken explained, "The importance of the exposition to manufacturers is revealed by the fact that 81% of the successful home builders in the nation belong to NAHB. Over 13,000 builders, contractors, realtors and others connected with the building industry attended the exposition in 1947, thus giving manufacturers an exceptional opportunity to show the newest in home building materials." Hotel accommodations for visitors are promised as "more plentiful."





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GREATER DEALER PROFITS!

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★ PACKAGED UNIT . . . no set up required.

★ EASILY SERVICED . . . all standard parts used.

Can be delivered to average basement completely assembled. Where necessary canopy and burner can be removed in a matter of minutes reducing length to 4 feet.
HEAVY STEEL BOTTOM eliminates cementing.

SHIPPED COMPLETE WITH: Gun Type Oil Burner (Underwriters approved). 12" Blower (with motor). Stainless Steel Comb. Chamber. Standard Size Filter. Automatic Drip Humidifier. Automatic Draft Regulator. Thermostat, Stack Switch. Comb. Fan & Limit Control.

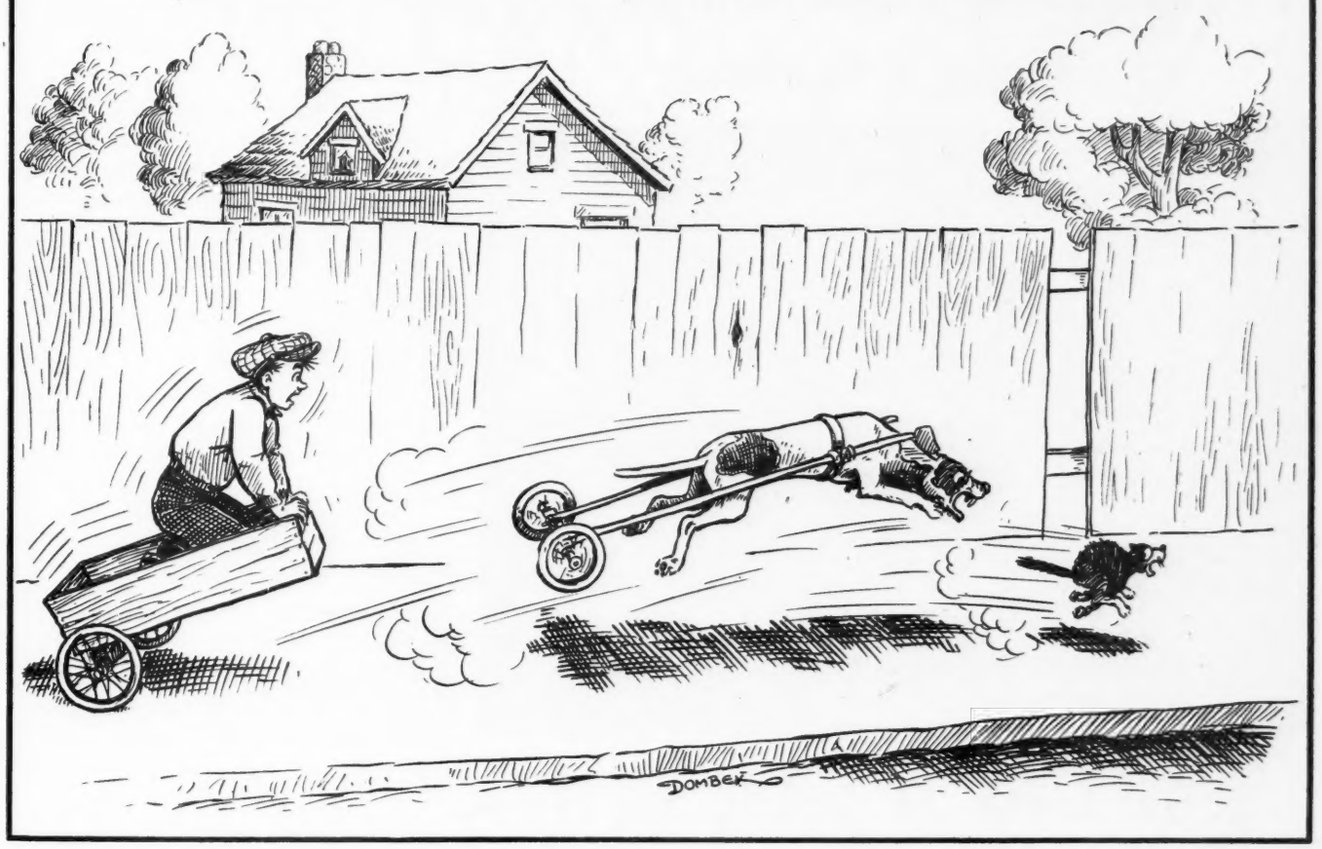
SPECIFICATIONS:

Length overall	62 in.	Height	52 in.
Width	24 in.	BTU Cap. (at bonnet)	100,000
			525 lbs.

Some sale territories open — Write for descriptive literature and prices.

Manufactured by
STANDARD HEATING EQUIPMENT CO.
Waterloo, Iowa

PERFORMANCE — PLUS



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FLANGE AND BASE MOUNT TYPES AVAILABLE
IN SIZES RANGING FROM 1/10 TO 1/3 H.P.

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Whatever your connection with these active fields, you'll find attendance at this exposition a profitable investment.

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8th Air Conditioning Exposition

Management International Exposition Co.

Small Business Helps Outlined by Myles Mace

MANAGEMENT ASSISTANCE for small business, a category including most firms in the fueloil and oilheating field, is available to small businessmen who have the initiative to go out and get it.

This conclusion is reached by Myles L. Mace, associate professor of business administration, Harvard Business School, in an article on "Management Assistance for Small Business," appearing in the autumn number of the *Harvard Business Review.*

Following an extensive survey of small business firms over the past few years, Professor Mace discusses various sources of management counsel which he has observed as being particularly helpful to small business, and cities actual cases as illustrations. His views relate to proprietorships, partnerships or corporations in which management decisions are made by one or two persons.

"By definition," he points out, "the small business manager does not have a staff of specialists in his organization. Yet there are sources of management assistance to augment the limited quantitative management capacities present in small business; and small business managers have but to seek out and use these sources. The diversity of small business management problems and the magnitude of the small business population require that the small business manager come to the sources of management assistance rather than vice versa."

In citing such sources of management assistance for small business as commercial banks, the Department of Commerce, suppliers, board of directors and advisory council, and others, Professor Mace notes that his list should not be regarded as complete or conclusive.

As to aid available from commercial banks, he points out that "too frequently the small business manager faced with a financial problem approaches the loan officer of a bank with an emergency request for cash and an inadequate presentation of the position of his business."

"The alert small businessman," he asserts, "helps his banker to help him, by anticipating his seasonal or other financial requirements and discussing them with his banker in advance of his actual need. If the accounts are not complete or accurate, there is sufficient time to

NO COMPETITION!

When you sell the New

VOLCANO

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HERE'S SOME REASONS WHY:

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- CUP SWIRLER
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STATEWIDE DISTRIBUTORSHIPS AVAILABLE
VALUABLE TERRITORIES OPEN

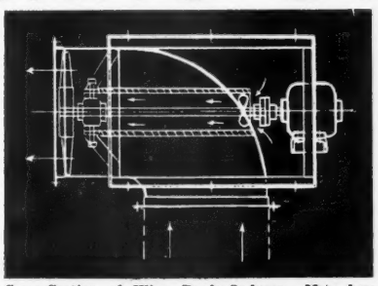
VISIT VOLCANO IN BOOTHS 449-450 AT GRAND CENTRAL PALACE FEB. 2-6

VOLCANO BURNER CORPORATION

3612 EAST TREMONT AVE., NEW YORK 61, N. Y.

Positive Draft

REGARDLESS OF WEATHER OR SIZE OF CHIMNEY



Cross-Section of Wing Draft Inducer. Note how shaft, bearings, etc. are protected from hot gases and cooled by outside air.

CAUSES OF POOR DRAFT

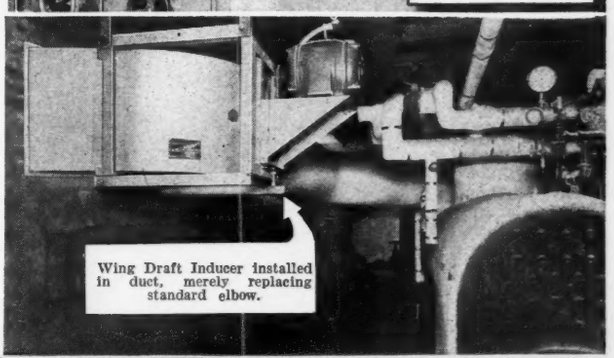
1. Chimney top too low to create the required "pull" in the furnace.
2. Chimney diameter too small, creating restriction in gas flow.
3. Complicated breeching — too long, with too many elbows or restricted areas.
4. High surrounding structures "blanketing" chimney's draw causing "down drafts."
5. Variable weather (such as "muggy" days or when the wind is in the wrong direction, etc.).

Smoke, soot, obnoxious gases and even furnace gas explosions are some of the effects of poor draft in addition to the uneven, irregular heat and incomplete combustion of fuel. If you make the installation you get the blame, so it is wiser to make sure of adequate draft *first*. The Wing Draft Inducer, for moderate size steam plants, industrial furnaces, kilns, etc. is the complete answer to the problem of inadequate draft. Installed in breeching or flue, or in weatherproof housing on top of the chimney, the Wing Draft Inducer will maintain an even constant suction, and produce the required air supply for complete combustion. Make all your jobs 100% satisfactory by insuring positive draft with Wing Draft Inducers.

Write for Bulletin I-10

L. J. WING MFG. CO.
154 W. 14th St., Dept. FOD
New York 11, N. Y.
Factories: Newark, N. J., Montreal, Canada

Wing Draft Inducer installed in elbow of breeching. Operates automatically with oil burner.



Wing Draft Inducer installed in duct, merely replacing standard elbow.

WING DRAFT INDUCERS

straighten them out to the loan officer's satisfaction. On this basis, the two parties work out arrangements to their mutual benefit.

"There is also another way in which the small businessman can help his banker to help him. Loan officers cannot be expected to be intimately aware of what is involved in the operation of every kind of business. It is therefore important that the small business manager take steps to educate his banker on the details of his particular business. It is only through such an understanding that the banker can assist the small businessman on the financial aspects of his operations."

Although not closely acquainted with the details of each individual small business, he continues, bankers "are usually in touch with market and general economic conditions and thus are in a position to pass this information on to small businessmen."

Noting that at present there are 77 field offices of the U. S. Department of Commerce located strategically throughout the country, Professor Mace explains that these offices exist to help all business, but each office includes a special section, staffed typically by men with business experience, with the primary function of assisting small businessmen in their respective regions.

"Too few businessmen are aware of these offices," he says, "and fewer still take advantage of the management assistance available at this source. This help does not consist of a management consulting service for each small business. Rather the small business manager who comes or writes to his regional office on a management problem receives whatever published literature is available and, if it is appropriate to his problem, is directed to other offices or private service businesses which can provide assistance."

Increasingly recognizing that their future success depends in large measure on the profitable operations of their many small customers, suppliers have proffered a variety of management aids to assure the continued existence of these small businesses, Professor Mace notes. These, he points out, have taken such forms as offers to help plan financial requirements; to reorganize store layouts; to establish cost controls; to provide newspaper advertising, suggestions and mats; to design store fronts and window displays; and others.

"One of the least used sources of management assistance for small businesses, and probably one of the most useful potentially, is the board of directors in the case of corporations (or the informal advisory group or council in the case of proprietorships or partnerships)," Professor Mace declares, citing a number of cases to show how valuable management help can be secured by obtaining qualified outside persons to serve as directors or advisors.

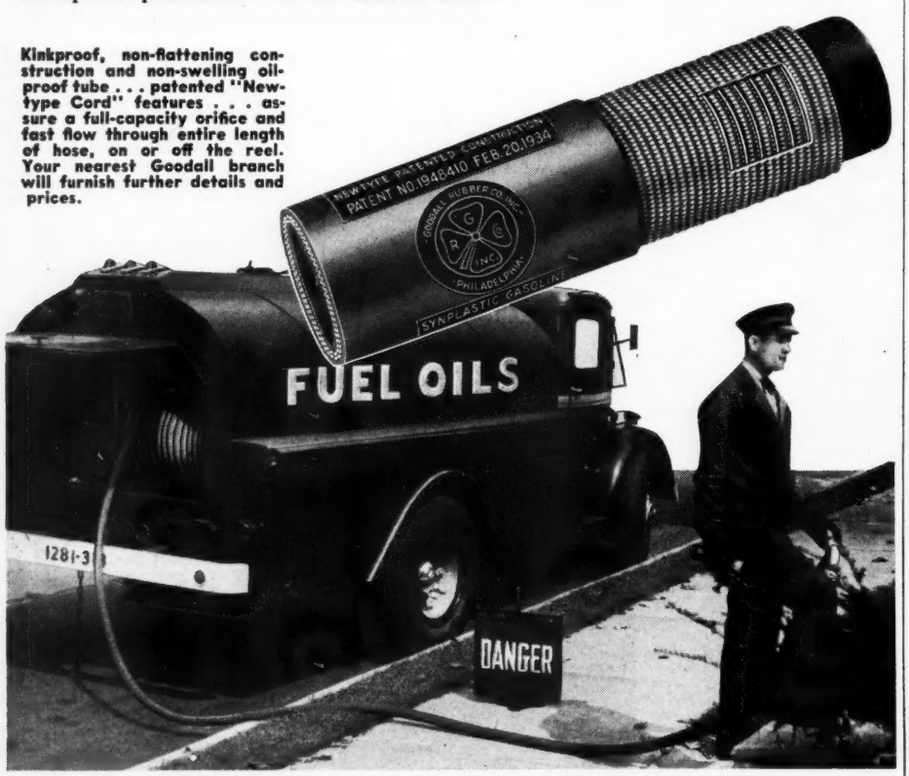
"There are other sources of management assistance," he continues. "Some management consulting firms, particularly the small ones, offer their services to small businesses. The benefit of this source of assistance was found to be greatest when the management consultants maintained a continuous rather than a one-shot relationship. Local community organizations also were found which provided management aids, but unless these agencies can be underwritten by private contributors, some ques-

"NEWTYPE CORD"

SYNPLASTIC FUEL OIL HOSE WITH NEW *LONGER WEARING* BROWN COVER

You can buy "Newtype Cord" with complete confidence that it will cut costs two ways—first, by speeding-up deliveries; second, by giving months of *extra service*, no matter how hard you use it. The new brown cover has greater-than-ever resistance to abrasive wear, and provides complete protection to the entire hose.

Kinkproof, non-flattening construction and non-swelling oil-proof tube . . . patented "Newtype Cord" features . . . assure a full-capacity orifice and fast flow through entire length of hose, on or off the reel. Your nearest Goodall branch will furnish further details and prices.



GOODALL RUBBER CO., INC.

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia • Trenton • New York • Boston • Pittsburgh • Chicago • St. Paul • Los Angeles
San Francisco • Seattle • Salt Lake City • Houston • Factory: Trenton, N. J. • Est. 1870

DEALERS....

Rudy offers you greater profits in 1948

1 **Complete post-war line includes all types of warm air equipment**

2 **Competitive prices with new and better discounts and allowances**

3 **Quality equipment that you can install and guarantee with confidence**

Rudy gives you all three big profit makers in 1948 . . . a complete line . . . a quality product . . . competitive prices. Backed up by 32 years of Rudy reputation for greater value, you can't miss. Whether your customer needs the super deluxe Rudy Lifetime Oil Heat Air Conditioner or a simple coal fired gravity job, you can depend on Rudy to deliver satisfaction to the customer and a good profit to you.

Don't wait. Write today and find out about Rudy's plan to help you make more profit in 1948.

RUDY

THE MARK OF QUALITY

A COMPLETE LINE OF HEATING AND AIR CONDITIONING EQUIPMENT

RUDY FURNACE CO., DOWAGIAC, MICH.

Rudy also makes the well-known Rudy All-steel Coal Fired Hot Water Supply Boiler with Lifecote lining.

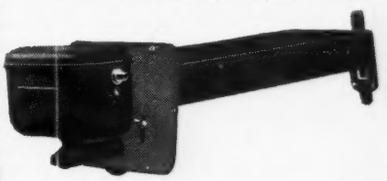
You're Sales Ahead When You Handle the COMPLETE *Skuttle* LINE of Quality Humidifying Equipment!

SERIES 600

Your best bet for bigger, better business . . . the new Skuttle Series 600! It's the one and only self-flushing, self-cleaning, fully automatic humidifier and it meets most humidifying requirements. Quickly, easily installed! Adaptable to sloping bonnets or straight plenums of both gravity and forced air furnaces. You need carry only one in stock!

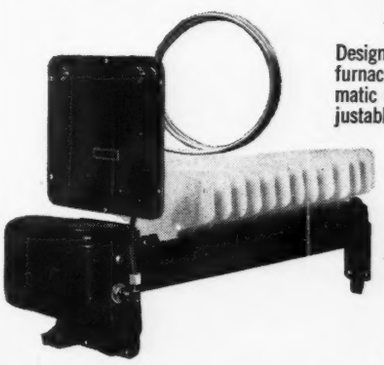
SERIES 500

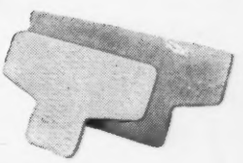
Skuttle's Series 500 Automatic Humidifier is particularly recommended for gravity type furnaces having curved plenum. Among its important quality features are adjustable collar that fits sloping or vertical bonnets, automatic anti-siphon float control valve, adjustable rear support for levelling. Pan sizes from 16″ to 28″ long.



SERIES 300

Designed especially for forced air type furnaces, the Series 300 Skuttle Automatic Humidifier is equipped with adjustable collar that fits all bonnets, drawn seamless copper tank and pan, automatic anti-siphon float control valve, and large inspection door and frame. Pan sizes from 16″ to 24″ long.





***VAPOGLAS* PLATES MEAN REPEAT PROFITS FOR YOU!**

For top efficiency, evaporating plates should be replaced once each heating season. And Skuttle's patented Vapoglas plates can bring you this yearly repeat business from every installation you make. They absorb 70% more water per pound than ordinary ceramic composition plates assuring maximum moisture output.

Cash in with Skuttle's complete line of quality humidifiers and keep on cashing in year after year with Skuttle's exclusive Vapoglas evaporating plates! See your local jobber now . . . or write today for state listings and the complete Skuttle Profit Story!

See you at the International Heating Exposition—New York City—Feb. 2-6!

Skuttle

MANUFACTURING CO.

4099 BEAUFAIT

DETROIT 7 MICHIGAN

tions remain as to their self-sustaining ability. In addition, there are lawyers, public accountants, and advertising agencies ready and willing to apply their specialized knowledge to the problems of small business. Too, some trade associations provide management assistance."

"Obviously," Professor Mace writes, "all the sources of management assistance suggested here are not appropriate to every small business; nor are many which could be used mentioned at all. A few have been listed and commented upon briefly only to make the point that the small business manager can find in outside organizations or individuals the means by which to assure himself of expert and specialized management auxiliary strength. Effective use of such help substantially provides the small business manager with the equivalent of a staff in his own organization without the cost rigidity of permanent employes. This additional organizational ability means also that the small business manager can select, depending on his particular problem, the sources of management assistance most likely to serve his needs.

"In some ways the existence of one or two men as the management in a business has considerable advantages of flexibility, singleness of purpose, close relations with personnel, and so on—so long as some of the offsetting disadvantages, like lack of time for objectives, forward-looking planning, are minimized through recourse to outside skills as needed. But the burden is on the small business manager to help himself. The strong, virile, and challenging small business segment which is deemed essential to our system of free enterprise cannot exist if this segment is ministered unto as a ward of the public.

"Any real solution to the small business management problem, it is repeated, must depend on the vigor and initiative of small businessmen themselves."

◈

Allied Oil, Cleveland, Advertising Conservation

IN LEADING Ohio daily newspapers, Allied Oil Co., Cleveland, is running a series of advertisements to promote fuel conservation. Similar educational advertising is of course being undertaken by major companies in several areas, but Allied is apparently the only independent marketer doing it on a broad scale. One of the series of Allied messages is addressed to plant workers, telling them how they can conserve fueloil on the job.

◈

Jonswold Heads B.O.D.A.

CARL R. JONSWOLD, executive vice-president of the Arrow Petroleum Company, Forest Park, Ill., was elected president of Chicago's Burning Oil Distributors Assn., at its annual meeting. He succeeds Frank Spencer of Socony-Vacuum.

Other officers elected were: vice-president, Roy J. Thompson, Apex Motor Fuel Co.; corporate secretary, I. L. Schurman, Consumers Petroleum Co.; treasurer, Dayle G. Malone, Petroleum Heat & Power Co. Verne S. Follansbee continues as executive secretary. Thompson, Malone and Robert F. Doepel of Braun Bros., are new directors.

NOW IN 25-LB. BAGS

No longer need you "lug" a large bag of R & I Stic-tite Insulating Cement for a small job. It now comes in 25-lb. as well as 50-lb. bags.

Stic-tite has three times the insulating value of ordinary insulating cement, covers twice the area and has three times the adhesiveness. We'll send you a 5-lb. bag free so you can prove these facts to yourself.

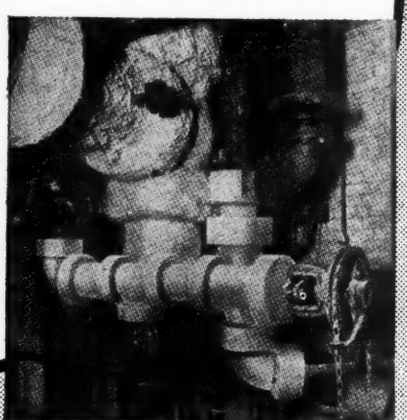
Write for a sample bag and Bulletin I-75.

REFRACTORY & INSULATION CORP.

116 Wall St., New York 5, N. Y.
Chicago 4, Ill., Newark 2, N. J., Philadelphia 3, Pa.

STIC-TITE
Insulating Cement

R&I



TWICE AS GOOD . . . AND TWICE AS EASY TO SELL!

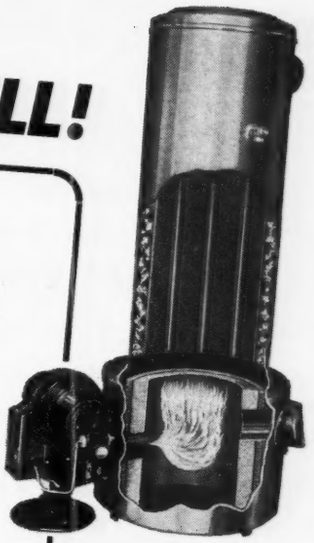
The double-duty dandy!—the two-in-one wonder! The answer to hot water *and* heating in the small home . . . and twice as easy to sell because it *does* twice as much!

You can recommend this G & C unit with complete confidence—for it's backed by 42 years of specialized engineering. Once installed, it's trouble-free—you don't have to go back on time-and-money-losing fix-it visits.

Check these features: heavy copper storage tank with copper fire tubes for high heat transfer—heavily insulated kiln-finish pre-cast refractory combustion chamber—heavily insulated against standby heat loss—equipped with automatic temperature and pressure relief valve—observation door for flame—beautiful finish in baked enamel. . . . Furnished less burner and controls, always specify the dependable double-duty unit:

THE G & C ALL-COPPER Oil Fired WATER HEATER

Contact your jobber now or write to us.



PATENTED

COPPER IS ENDURING

Manufacturers of large capacity hot water generators and storage tanks

GERSTEIN & COOPER CO. *for 42 years*

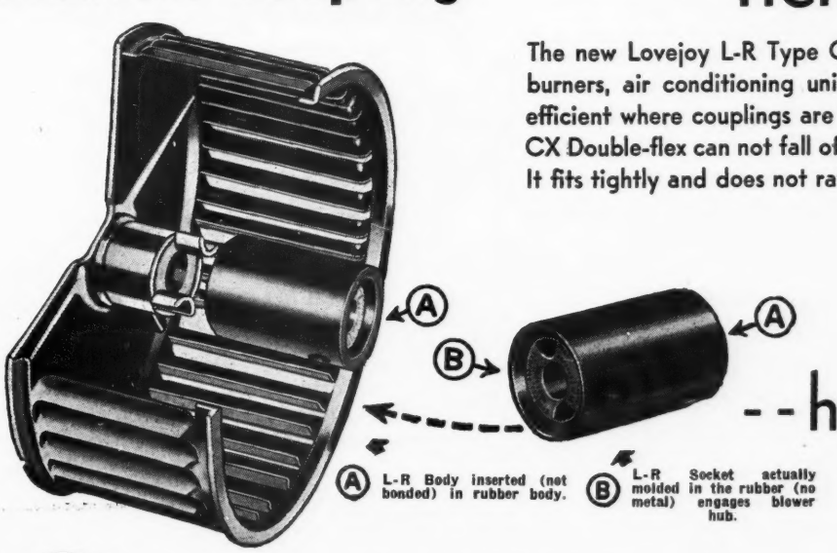
1-3 WEST THIRD ST., SOUTH BOSTON, MASS.

THE HOUSE OF HIGH GRADE COPPER PRODUCTS

LOVEJOY L-R
Type CX Double-flex Flexible Coupling

— — here's what it is:

The new Lovejoy L-R Type CX Double-flex is a better coupling for oil burners, air conditioning units and other installations; but particularly efficient where couplings are located in the dark or close quarters. The CX Double-flex can not fall off when blower and pump units are serviced. It fits tightly and does not rattle.



Ⓐ L-R Body inserted (not bonded) in rubber body.

Ⓑ L-R Socket actually molded in the rubber (no metal) engages blower hub.

- - here's what it does:

Positive correction of misalignment, shock, surge, backlash, etc. is achieved with the Lovejoy L-R Type CX Double-flex flexible coupling. Oil heating and air conditioning engineers and servicemen say it is quickly assembled and easily installed.

Get all the details in Bulletin 520

OHI

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street • Chicago 44, Ill.

DEALER OPPORTUNITY

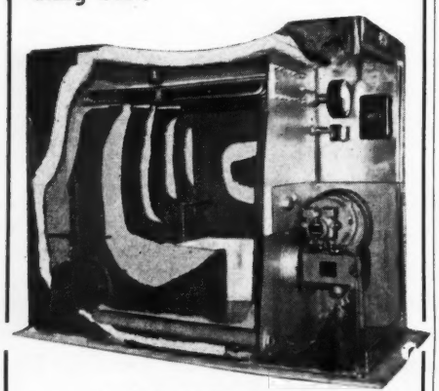
We have openings for a limited number of dealers

ACT FAST— ACT NOW — HURRY —

SEE WHY

RADIANT GLOW OIL HEAT

is a better buy. With its Radiant transfer surface — counter flow principle — down fired — all steel — wet base boiler — built-in heat exchanger — instantaneous hot water coil — expansion tank built in — burner completely enclosed with extended jacket — low compact modern design — low operating cost.



A NEW PROVEN THEORY OF HEAT TRANSFER

NO TUBES — NO FLUES JUST RADIANT HEAT

Can any other boiler burner unit offer all the advantages incorporated in Radiant Glow?

Get all the facts about Radiant Glow Franchise today. A limited number of valuable territories still open. This is an opportunity any live wire organization can not afford to let pass by.

Invite our representative to call. Let him tell you of the advantages Radiant Glow oil heat and an exclusive franchise has to offer.

CLIP AND MAIL

LEHIGH VALLEY SERVICE CO.
29 South Sixth St., Allentown, Pa.

Please send me literature on your oil burners—at no obligation to me.

NAME .....

STREET .....CITY.....

Sales Literature

BRIEF DESCRIPTIONS of catalogs and sales literature prepared and offered by manufacturers appear below. Those interested in securing copies of the booklets, or additional information on products described, are urged to write direct to the manufacturers.

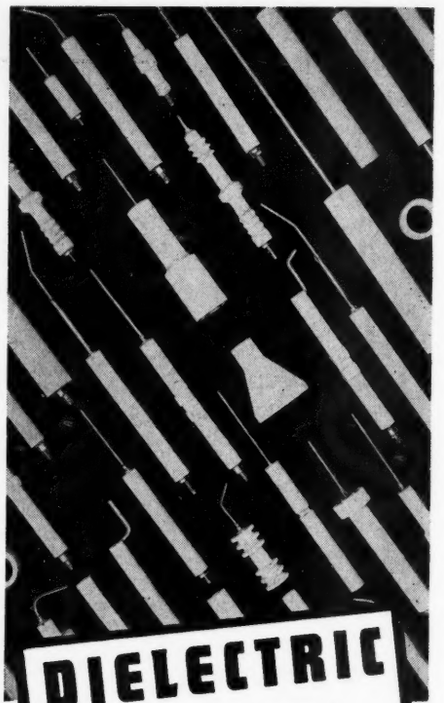
Ace Engineering Co., Chicago, Ill. A collection of ten bulletins, which describe in detail principle of operation, applications, construction and operating features of Ace Uniflow horizontal rotary oilburners. Separate bulletins deal with No. 5 and 6 oilburners, manual, semi-automatic and automatic operation and burners using residual oils. Features are discussed in another bulletin and technical data and specifications are listed for all models in the final sheet of the collection, which is bound in heavy paper covers.

American Air Filter Co., Inc., Louisville 8, Ky. Eight page booklet explaining application of replaceable type air filters. Descriptions and illustrations of each type of filter give instructions for maintenance, detailed engineering and installation data.

Gorton Heating Corp., Cranford, N. J. Bulletin No. 115 on Gorton system of vaporizing and equalizing existing steam heating systems for automatic heating. The bulletin briefly discusses the reasons for cold rooms and explains how Gorton valves and eliminators correct the condition, describing features of each unit. Trade Price Sheet No. 47, recently issued, also is available.

Manning & Lewis Engineering Co., Newark 4, N. J. Bulletin 741, an 8-page booklet, devoted to M & L fueloil preheaters. Capacities, dimensions, weights and prices are shown in separate tables for U-tube, tank outlet, straight tube and cross flow heaters. Tables show capacities at various steam pressures and oil temperatures.

Refractory Coatings Co., Newark 5, N. J. Describes Sta-Kote furnace coating in a small folder. It is pointed out how the liquid coating is applied by spray gun or brush to the inside fire brick wall, or any cast combustion



DIELECTRIC

THE WIDEST SELECTION OF IGNITION ASSEMBLIES for Any Oil Burner

ELECTRODES • BUS BARS INSULATORS • CABLES

Incorporate Dielectric ignition assemblies into its design and you assure your oil burner of the best in electrodes, insulators, bus bars or cables. All parts or assemblies are guaranteed to meet Underwriters' Laboratories, Inc., requirements.

Standard electrode assemblies in a variety of insulator lengths are available for quick delivery. Special tip designs take only a little longer to produce.

Dielectric high tension cable assemblies and bus bars are also available for any transformers or electrodes on short notice.

Dielectric engineering service is fast, economical, cooperative. Write for catalog.

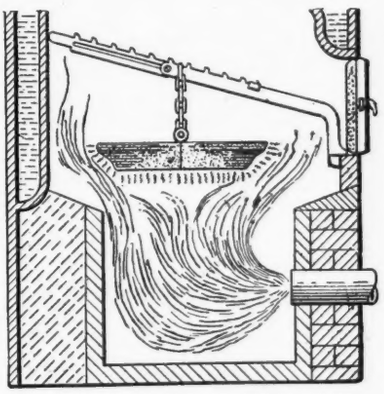
DIELECTRIC PRODUCTS CO., Inc.
125 Virginia Ave., Jersey City 5, N. J.
Boston • Philadelphia • Des Moines

SAVE FUEL OIL

BY INSTALLING

IRON-HIDE BAFFLES

PAT. PEND.



IRON-HIDE ADJUSTABLE BAFFLE SUPPORT SIMPLIFIES INSTALLATION

(PAT. PEND.)

Both round and rectangular baffles are in two halves. They are hinged together, and will always pass thru any boiler feed door. No bolting necessary.

WRITE FOR LITERATURE

IRON-HIDE REFRACTORY PRODUCTS
MATAWAN, NEW JERSEY

TANKS

WE SPECIALIZE IN THE MANUFACTURE OF

275 GAL. CAPACITY

Inside (Basement) Oil Storage Tanks For Oil Burner Use.

WE INVITE YOUR INQUIRIES.

RELIANCE INDUSTRIES
INCORPORATED

EXECUTIVE AND SALES OFFICES
Traction Building
CINCINNATI 1, OHIO

SHAFCO SUSPENDED OIL-FIRED UNIT HEATERS

WANT to cut new construction costs? Want to "add" 50, 100, even 200 feet of floor space to existing facilities? Then best you get acquainted with SHAFCO Suspended Oil-Fired Unit Heaters. They "hang" overhead . . . up in the air and out of the way . . . leaving space below free for useful, profitable occupation. And talk about heating efficiency! SHAFCO is tops! . . . 85% by actual tests . . . due to its exclusive, patented "counterflow" principle of air and heat. Installation? Quick and easy . . . because SHAFCO Heaters are compactly designed, simply assembled. Built-in plenum chamber eliminates makeshift "on-the-job" finishing. Heavy duty blower unit assures efficient heat circulation with minimum duct-work. Long-lasting? You bet! SHAFCO maintains the highest standard of quality throughout . . . with heavy gauge steel construction that really stands up under heat. No strains, no warping, no buckling! And SHAFCO Heaters have been thoroughly proved in use over 10 years successful application by major oil companies.

Models available from 100,000 to 400,000 B.T.U. to meet heating requirements of a wide range of commercial and industrial installations. Write today for the complete SHAFCO story.

"The best costs less regardless of price! Specify SHAFCO!"

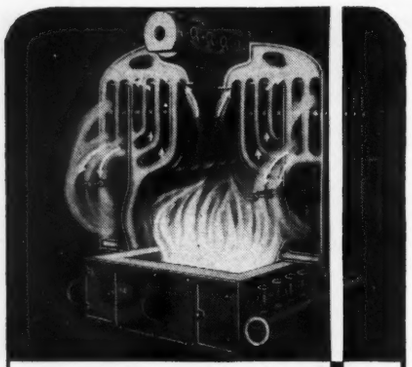
SHAFCO HEATER

SHAFCO

DISTRIBUTING CORPORATION
Division of SAWYER HEATING COMPANY

1354 Book Building • Detroit 26, Michigan
NEW YORK: 347 Madison Ave. • CHICAGO: 330 S. Wells St.

Authorized representation Coast to Coast . . . provides on-the-spot installation service



How many boilers do *you* see?

The nine-section Mills 44 boiler illustrated above is actually 18 boilers, guaranteeing you 18 times as much security as any other type boiler. If, for any reason, a section becomes disabled, 17 other boilers continue to function, without interruption!

Why so? Header type construction makes each section a separate boiler — *each* receives returns uniformly from return drums and *each* discharges to a steam drum. A cracked section can be temporarily blocked off by simply cutting its supply and return nipples and plugging the drums. The replacing section can then be installed when convenient.

There's a place for Smith-Mills boilers wherever *continual, uninterrupted, economical* heating is necessary. Other unique and exclusive advantages of Smith-Mills boilers are described thoroughly in the H. B. Smith Catalog . . . write for it.

H. B. Smith

CAST-IRON BOILERS

THE H. B. SMITH CO. INC.,
68 Main St., Westfield, Mass.

Offices and Representatives in Principal Cities

chamber, and then dries into a hard, glazed, jointless surface to prevent impingement of flame and gases.

Cleveland Humidifier Co., Cleveland 3, Ohio. A 12-page booklet, "The Science of Re-Humidifying Indoor Air," presents authoritative data on the fundamentals of indoor humidification in concise and usable form. Much of the data in the book are shown in charts, compiled from bulletins issued by University of Illinois Heating Research Department, with explanatory captions accompanying each chart. Other paragraphs contain general discussions of humidification, what it is and what it does, and lists rules for calculating humidification requirements, air leakage and outdoor air intakes.

Rempe Co., Chicago 12, Ill. Engineering data book providing fundamentals of pipe and fin coil calculation. It treats heat transfer "K" factors for all ranges of heating and cooling, gives recommended air velocities and fin spacing, shows in detail how to calculate and design pipe and coils for all generally encountered heating and cooling loads. The 34-page book is illustrated and contains numerous pages of tables.

Askania Regulator Co., Chicago 11, Ill. Series of data sheets on electronic Servo system for remote positioning of dampers, valves and other mechanisms on industrial installations. The functions of the component parts, transmitter, control amplifier and receiver, are pointed out and shown in three typical hookups. Photographs illustrate construction features and installation procedures, with other sheets giving specifications and technical data.

Geo. D. Roper Corp., Rockford, Ill. Catalog 947, second edition, on Roper rotary pumps for manufacturing, petroleum and process industries, lists complete specifications and technical data for numerous sizes of five types of pumps, ranging in capacity from ¾ to a maximum of 300 gpm. Each type is pictured, and features and applications stressed.

D'Elia Oil Burner Co., Bridgeport, Conn. Folder devoted to D'Elia gun type oilburners, with emphasis on the Flame Tuner, a device to increase or decrease

KRAISSL

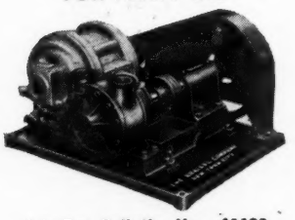
PUMPS AND SEPARATORS

FOR OIL BURNER SERVICE

CLASS 50 LIGHT OIL PUMPS
DIRECT DRIVE FOR
#1 TO #5 OILS INCLUSIVE

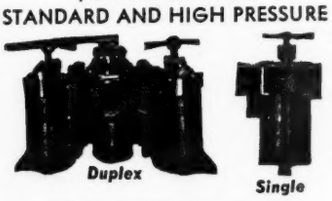
Ask For Bulletin A-1330

CLASS 60 HEAVY OIL PUMPS
REDUCTION DRIVE
FOR HEAVY OIL



Ask For Bulletin No. A1193

CLASS 72 STRAINERS AND FILTERS
SINGLE AND DUPLEX
QUICK CLEANING
STANDARD AND HIGH PRESSURE



Duplex *Single*

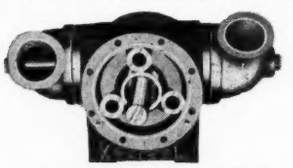
Ask For Bulletin No. A-1214

FOR BULK STATION SERVICE

CLASS 60M MOTORED PUMPS
DIRECT DRIVE
FOR EXCLUSIVE USE WITH
LIGHT OILS AND SOLVENTS

Ask For Bulletin No. A-1267

CLASS 80 TRI-ROL PUMPS
INTERCHANGEABLE SERVICE
BOTH LIGHT AND HEAVY OILS
TANK TRUCK AND BULK STATION



Ask For Bulletin No. A-1366

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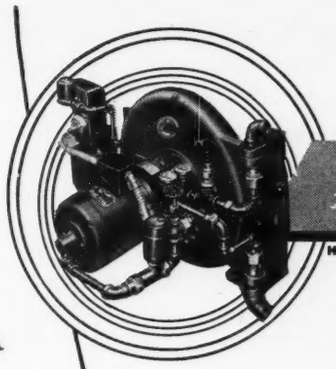
KRAISSL **THE KRAISSL COMPANY**
HACKENSACK, N. J.

Cordial Invitation

OUR increased production facilities and personnel enable us to satisfy the requirements of a few additional competent organizations capable of selling, engineering, installing, and servicing our complete line of industrial horizontal rotary oil burners.

You are invited to investigate the unusual sales and merchandising advantages of the Ace Uniflow Oil Burner. Why not discuss this with us at our Booth 550 at the coming Heating & Ventilating Exposition. A profitable opportunity awaits the right organizations.



Ace UNIFLOW
HORIZONTAL ROTARY

HORIZONTAL ROTARY

OIL BURNERS

FOR PERFECT HEAVY OIL BURNING UNDER ALL OPERATING CONDITIONS

Models Available

	GALLONS PER HOUR	BOILER H. P.	SQUARE FEET STEAM RAD.
MINIMUM	2	6	800
MAXIMUM	165	500	64,000

ACE ENGINEERING CO.
1435 W. 15th Street • Chicago, Illinois

Custom Engineered Oil Burning Systems Since 1931

MANUFACTURERS ATTENTION!

We desire one or two more good devices associated with the oil burner and heating industry to represent.

Our jobber and burner manufacturer following is very interesting and covers 16 Eastern Seaboard States.

We are not just ordinary representatives in that we do much merchandising supplementary to direct contacts . . . helpful to any manufacturer interested in putting over his products substantially and wholesomely.

Please submit your product by letter and, if appealing to us, we will then arrange mutually convenient appointment.

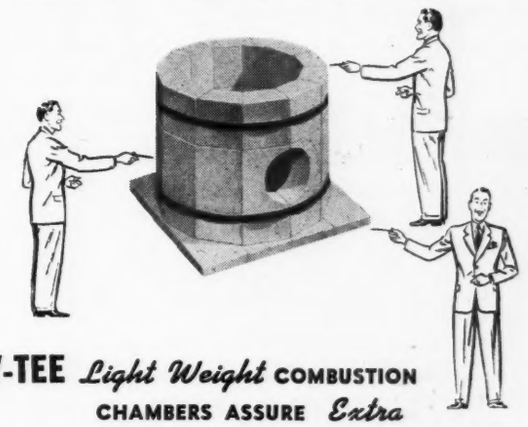
Please visit us—Booth No. 434, International Heating and Ventilating Show and Hotel Sheraton.

William J. Debler and Sons
AUTOMATIC HEAT DEVICES
PHILADELPHIA, NEWARK, BOSTON
619 ACORN ST. PHILADELPHIA 28 RO—8-3887

EASTERN FACTORY REPRESENTATIVES

"JAY-TEE" *Measures Up...*

TO EVERY REQUIREMENT *for a Rapid Heating . . . Low Cost . . . Light Weight Combustion Chamber for Your Conversion Burners!!!*



JAY-TEE *Light Weight* **COMBUSTION CHAMBERS ASSURE** *Extra* **PERFORMANCE**

Features:
- Longer Life
- Cleaner Heat
- Oil Miser
- Easily Installed
- Fewer Service Calls
- Vermiculite backfill included.

Jay-Tee combustion chambers for oil burners are available from 1 GPH up.

For better service . . . lower fuel bills . . . more satisfied users . . . specify JAY-TEE Light Weight combustion chambers.

For additional data write:

TAYLOR REFRACTORIES & INSULATION CO., INC.
2006 Madison Road, Cincinnati 8, Ohio

blast tube diameter to improve air and oil mixture. Photographs and captions are used to illustrate construction and operating features of models FT and DXN.

Morrison Steel Products, Inc., Buffalo 7, N. Y. Data sheet on Mor-Sun utility furnace, fired with Ball-Flame vaporizing oilburner. A cut-a-way view of the unit shows placement of parts and location of fire tubes. Specifications table lists capacity, dimension data and construction details.

Floral City Heater Co., Monroe, Mich. Flo-Co oilfired Hiboy furnace unit is pictured and described in a 4-page folder. The unit is shown in a cut-a-way view, with features and refinements pointed out by numbered arrows, with each explained briefly in the caption. Engineering data gives capacities, dimensions and control information on the unit, which is fired with vaporizing oilburner.

C. A. Olsen Mfg. Co., Elyria, Ohio. A well-illustrated folder describing series O Luxaire automatic oilfired winter air conditioning unit. Pointed out as features of the unit are a submerged-arc welded steel combustion chamber, a tubular radiator and a die-formed cabinet with hinged door. Specifications table and dimensional drawings are included.

Dominion Chemical Co., Inc., New York 18, N. Y. Discusses "The case of the missing BTU's" in a mailing piece, which lists clues as clogged burner nozzles, heavy deposits in pipe, congested fuel lines, heavy oil consumption, and offers No-Sludge fueloil treatment as a solution. Describes the action which results from application of the treatment. Mailing piece includes an order form.

Bacharach Industrial Instrument Co., Pittsburgh 8, Pa. Presents in a mailing piece the complete line of heating service instruments made by the company, with pictures and brief descriptions of their uses. Shown are draft gauges, air temperature records, motor operation recorders, Fyrite CO_2 indicator, stack thermometers and complete combustion test kits. The mailing piece offers a copy of Bulletin 729, which explains the advantages of combustion testing in selling and service heating equipment.

Auto-Heat Corp., New York 23, N. Y. Four-page folder on a winter air conditioner which supplies domestic hot water in one single unit. Water heating is accomplished by drawing hot air from the plenum chamber by a propeller fan over finned copper coils, enclosed in a special insulated steel cabinet. The folder contains views showing arrangement of the interior of the furnace when operating in summer for domestic hot water supply and when operating in winter for both heat and hot water.

Eckhart Mfg. Co., Roselle, N. J. Silent Korth gun type oilburners are described in a mailing piece, reproduced in color and well illustrated. Eight models are shown, with complete specifications contained in a table to show gph rates, capacity in EDR steam, type of motor, transformer, fuel unit and fan and type of pedestal and back plate cover.

"When I bought my Viking pumps, I knew they were engineered for my job. They were no off-the-shelf item that was supposed to do a little of everything and none too well.

"They were built for my work and to handle my particular problem. There was no guessing or compromising.

"My pumps today are several years old. They have needed little repairing. The newer Vikings are even better than mine although harder to get than when I bought them. They cost a little more but they are still an honestly good buy.

"Vikings are simple, rugged and well built. They always have been and I think they always will be. That's why I'm going to get more Vikings when I need more pumps.

"Your first step is to ask for free folder 1500EE. If you have a pumping problem, tell them about it."

See Our Catalog In SWEETS

Viking PUMP COMPANY Cedar Falls, Iowa

IN BOOTH 515

You'll Find the Answer At The Heating & Ventilating Show, N.Y.C., Feb. 2 to 6.

We invite you to visit our display, where you will see the new line of Bearlee Oil Tank Gauges for 1948.

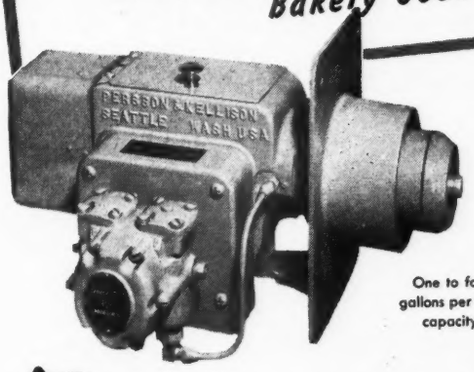
The gauge that will take 3 times the Hydrostatic Test of 25 psi required by the Underwriters Laboratories, and it's the only adjustable oil tank gauge in America.

Jobbers and Dealers, if you cannot see us at the Exposition, order a sample of this new Bearlee Gauge at once, before you decide to stock or sell any gauge in 1948.

BEARLEE PRODUCTS CO.

GREEN BAY, WISCONSIN

Specifically Designed and Engineered for Bakery Use!



One to four gallons per hour capacity.

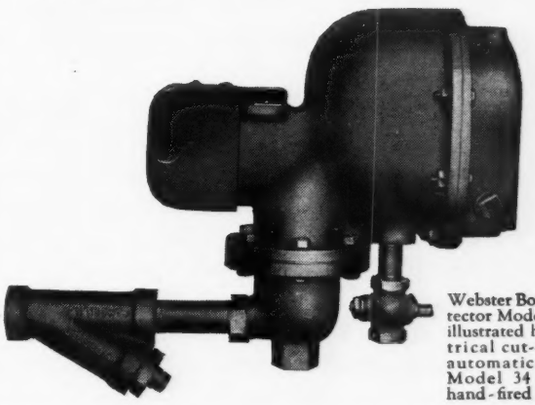
P&K BAKERY OVEN UNIT

WRITE FOR DESCRIPTIVE MATERIAL

Features exclusive FLOUR DUST ELIMINATION CHAMBER . . . Compactly designed and assembled of standard, nationally-known, interchangeable parts and precision engineered materials.

PERSSON & KELLISON
4413 Airport Way · Seattle 8, Wash.

Safety for Immediate Delivery



Webster Boiler Protector Model 34 C-1 illustrated has electrical cut-out for automatic heat. Model 34 is for hand-fired boilers.

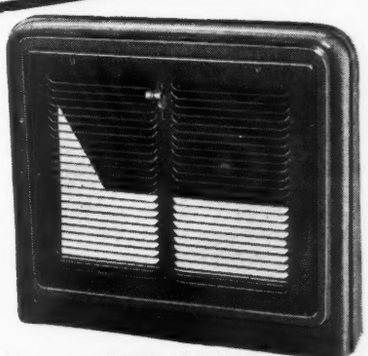
Safety from accidental low water. Deliveries from stock on both models of the proven Webster Boiler Protector. It's the only pilot-operated protector with powerful hydraulic control of boiler water level. Phone or write Webster Representative today for quick delivery. Bulletin on request, address Dept. F-1

WARREN WEBSTER & Co., Camden, N.J.
Representatives in principal Cities : : : Est. 1888
In Canada, Darling Brothers, Limited, Montreal

BY THE MAKERS OF Webster HEATING SYSTEMS

EFFECTO-GRILLE

NOW AVAILABLE! A Complete Line of AIR CONDITIONING and GRAVITY REGISTERS and GRILLES



No. 120A GRAVITY REGISTER with Removable Face for Gravity or Air-Conditioning Installations.

The Line That Has Everything

- EASE OF INSTALLATION
- PERFORMANCE
- POPULAR PRICES
- BEAUTY
- PROMPT DELIVERY

See our Exhibit at the 8th International Heating and Ventilating Exposition, Grand Central Palace, Feb. 2nd to 6th.

TURNBULL MANUFACTURING AND DISTRIBUTING CO.

9937 Freeland Ave., Detroit 27, Mich.

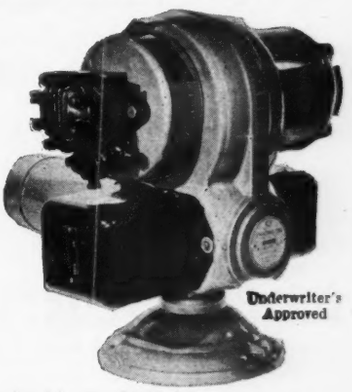
fuel oil & oil heat

New 1948 Standard-yne MODEL A

A PRODUCT OF OVER 25 YEARS OF OIL BURNER DEVELOPMENT

FIRST GUN BURNER TO FEATURE A PRESSED STEEL BODY

- HEAVY GAUGE STEEL BODY
- CANNOT CRACK OR BREAK
- AMAZING QUIETNESS & ECONOMY



Underwriter's Approved

Built to Sustain An Enviable Reputation

VISIT OUR BOOTHS—#646 & 647
at the 8th INTERNATIONAL HEATING & VENTILATING EXPOSITION
Grand Central Palace—New York City FEB. 2-6, 1948

STANDARD-YNE BURNER Corp.

MAin 2-1040
332-336 GRAND AVENUE BROOKLYN 5, N. Y.

Manufacturers Activities

Silent Glow Contest Offers $5,000 In Prizes

ANNOUNCEMENT has been made by Silent Glow Oil Burner Corp., Hartford 6, Conn., of its Air-Seel Burner "Show-Tell-Sell" contest, aimed primarily at the replacement market. Established and newly-franchised dealers both are eligible for the contest, whose rules have been so formulated that each has an equal opportunity to share in the $5,000 in prizes that is offered. Four cash prizes of $500 each are to be awarded in each of four dealer classes, with an additional $1,000 to go to the top-ranking dealer in all classes. Window display contest winners are to receive prizes totalling $1,000 and other special prizes, also amounting to $1,000, are being announced as the contest progresses.

Complete information, including contest rules and a detailed prize list for the contest, which closes February 1, can be obtained from Air-Seel Contest Manager, at the Silent Glow factory. Judges in the contest are: A. E. Hess, managing director, Oil-Heat Institute of America, Inc., New York 16, N. Y.; Ray Bidwell, vice president, Taylor & Greenough Co., Hartford, Conn., and A. G. Winkler, FUELOIL & OIL HEAT.

Petro Annual Report Shows Record Sales And Earnings

CONSOLIDATED NET EARNINGS of $1,607,419 are shown in the report to stockholders issued by Petroleum Heat & Power Co., Stamford, Conn., for the fiscal year ending June 30. These earnings are equal to 88 cents a share on stock outstanding. Total net sales of all divisions were $48,472,685, representing an increase over a similar period of 1946 of more than 140%, while operating charges totalled $45,773,356, and other charges, including interest and Federal taxes, amounted to $1,091,910.

K. G. MacCart, president, points out that in addition to a new high in sales, the company in 1947 expanded its sources and supply of oil by acquiring Taylor Refining Co., including a controlling interest in Coastal Refineries, Inc., both Texas. Major expansions also were made in production and distribution of Petro oilburning equipment, in oil storage and delivery facilities, notably in New York City where a thirteen million gallon oil deep water storage terminal was built.

Additions Double R & I Manufacturing Capacity

COMPLETION OF SEVERAL additions to its plant have been announced by Refractory & Insulation Corp., New York 5, N. Y. The improvements are part of a building program that affords the company almost 100% more facilities for the manufacture and storage of R & I refractory and insulation cements and precast combustion chambers.

New Foundry To Increase Nu-Way Casting Production

COMPLETION of a new and modern foundry will result in increased production of castings up to 34% at Nu-Way Corp., Rock Island, Ill., according to president W. H. Klockau. An old foundry had occupied space in the factory, but the new set-up is housed in a

Expect High, Uniform Quality

You'll get it with

GULF FUEL OIL

GULF OIL CORPORATION

Park Square Bldg. Boston 17, Mass.
17 Battery Place New York 4, N. Y.
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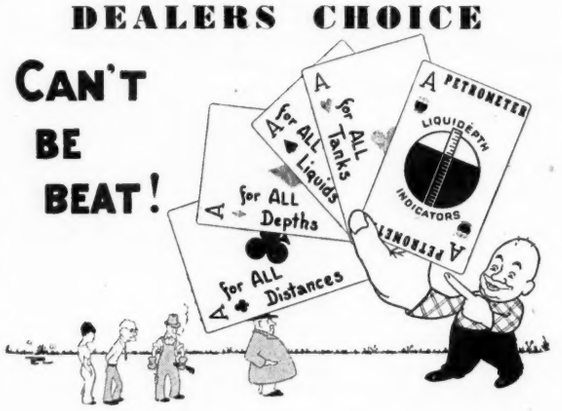
GULF

PETROMETER TANK GAUGES

DEALERS CHOICE

CAN'T BE BEAT!



Don Bierman Arthur Bierman

PETROMETER CORPORATION
L. I. City 1, N. Y.

HEATCRAFT

GIVES YOU...

IMPORTANT ADVANTAGES OVER ORDINARY OIL BURNERS

The Heatcraft Oil Burner has 7 important advantages over ordinary burners, and that's why dealers everywhere are switching to the Heatcraft line. Heatcraft means faster, more profitable sales.

Sharp-eyed home owners are quick to recognize Heatcraft superiority and that's why public preference for Heatcraft quality is growing by leaps and bounds.

Write, wire or phone for literature and details concerning the possibility of a Heatcraft dealership in your locality. Address Dept. F, 2434 Crittenden Drive.

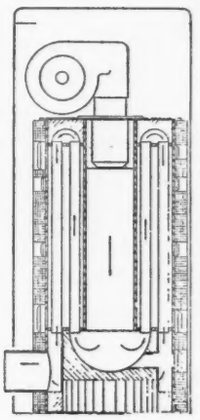
STOKERS • FURNACES • GAS BURNERS

HEATCRAFT COMPANY

2434 CRITTENDEN DRIVE, LOUISVILLE, KENTUCKY

HEATMASTER BOILER

Introduces Powerhouse Efficiency in Home Heating



WELDED steel construction. Engineered to meet ASME Code specifications. Completely packaged, fully wired and equipped with safety devices. HEATMASTER is efficient, dependable, economical and carries the recognized stamp of approval of the HARTFORD STEAM BOILER INSURANCE COMPANY. Adaptable to steam, hot water or warm air systems, 80% efficiency is obtained with a CO_2 reading of 12% to 14%.

High efficiency plus low initial and operation cost insures customer satisfaction. Highly profitable for dealers. Exclusive franchise available. Write, wire or phone.

PRESSURE VESSEL SERVICE, INC.

701 Penobscot Bldg. Detroit, Mich.

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GENERAL CONTROLS . . .
THE ACKNOWLEDGED STANDARD IN AUTOMATIC PRESSURE, TEMPERATURE AND FLOW CONTROL UNITS

Here are a few of an outstanding line of controls for Industrial, Commercial and Domestic applications.

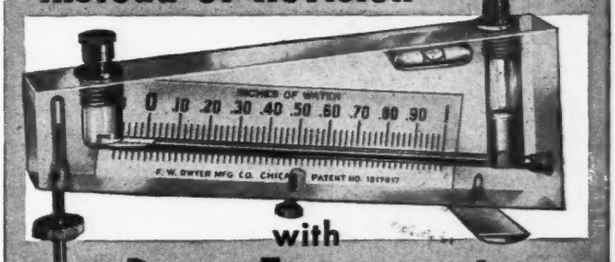
★ALL-GAS CONTROLS, ELECTRIC
★AIRCRAFT CONTROLS
★AUTOMATIC SAFETY PILOTS
★GAS REGULATORS
★LOW WATER CONTROLS
★GOVERNOR TYPE VALVES
★HI-LOW-OFF VALVES
★INDUSTRIAL VALVES
★LOW PRESSURE GAS VALVES
★MOTOR OPERATED VALVES
★MAGNETIC GAS VALVES
★PILOT BURNERS
★PILOT GENERATORS
★REFRIGERATION VALVES
★SOLENOID VALVES
★STRAINERS—RELAYS
★100% SHUT-OFF VALVES
★THERMOSTATIC CONTROLS
★TRANSFORMERS—SWITCHES
★THERMOPILOTS

Controls for air, water, steam, natural, manufactured and liquefied petroleum gases, light and heavy oils, etc., refrigerants such as: freon, methyl chloride, sulphur dioxide and ammonia.
A. C. or D.C., normally closed or open types. High and low pressures and temperatures. PROVED AND IMPROVED PERFORMANCE IS PROOF THAT YOU CAN'T BUY BETTER CONTROLS.

GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.
Manufacturers of Automatic Pressure, Temperature and Flow Controls
BRANCH OFFICES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

FOR COMPLETE SPECIFICATIONS REQUEST NEW CATALOG.

PRECISION
instead of Revision



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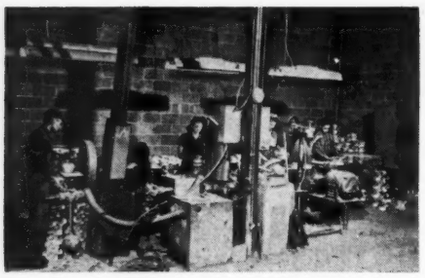
Dwyer Transparent
PORTABLE DRAFT GAGE

Get accurate readings the *first time* with Dwyer Transparent Draft gages. Lighted from all sides thru its solid clear plastic body, this precision gage measures drafts, air velocities and slight pressure changes with scientific accuracy. The red fluid sharply contrasts with solid plastic body for easy reading under all conditions. Built for many years, trustworthy service. Write for details and prices.

F. W. Dwyer Mfg. Co.

315 South Western Avenue, Chicago 12, Illinois



View *of final finishing section in Nu-Way's new foundry.*

separate steel and concrete block building, containing more than 3,000 sq. ft. of floor space.

At present the foundry is turning out cast aluminum parts used in the manufacture of Nu-Way domestic conversion oilburners. Latest type ventilating system and lighting, furnished by four skylights and fluorescent fixtures, are features of the new foundry.

Jefferson Electric Buys Capacitron Company Plant

PURCHASE of the Capacitron Co., Inc., Chicago, has been announced by Jefferson Electric Co., Bellwood, Ill., manufacturers of transformers, ballast and fuses. Capacitron's chief products are industrial condensers, A.C. motor starting capacitors and Ballastrons, a type of fluorescent lamp ballast condensers.

Jefferson's executive vice president, A. E. Tregenza, reports that plans have been made to continue production of condensers and capacitors in the present plant, enlarging and improving facilities as needed.

Change Corporate Name To Monogram Products Co.

DESCRIBED as a move to better describe their business, Monogram Combustion Chamber Co., Philadelphia 4, Pa., have registered under the new name of Monogram Products Co., effective January 1. No change is contemplated in ownership, management or manufacturing activities in producing Lite Cast combustion chambers and refractory materials.

Esso Absorbs Colonial

STANDARD OIL COMPANY of New Jersey, which owns nearly all the outstanding stock in the Colonial Beacon Oil Co., is taking over the business and assets of Colonial Beacon, and will abandon the business under that name. The transfer will not affect the marketing of refined products in the New England and New York areas.

Eckhart Plans Open House During Heating Exposition

ECKHART MFG. CO., Roselle, N. J., has completed plans for conducted-tours of its new, modern factory by visitors to the company's booth at the Heating and Ventilating Exposition. Open house will be held daily at the factory from February 2 to 6, the dates the Exposition is held, with the company providing round-trip transportation to and from Grand Central Palace. These trips will be timed to avoid interfering with events of the Show.

Important new developments in Korth domestic oilburners will be demonstrated at the company's Exposition exhibit, according to Arnold Eckhart, Sr., president, and the inspection tours are designed to demonstrate the efficient, modern manufacturing methods employed. The recently erected all-steel

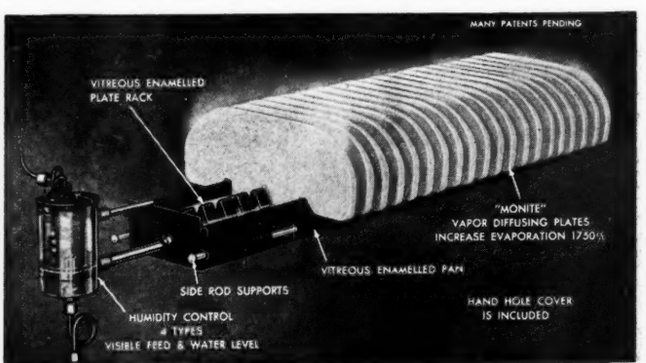
How to start the New Year with MORE SALES!

No other single burner has so many outstanding features . . . or has been received so enthusiastically . . . as the new Anchor Oil Burner. It's the ideal conversion unit!

When you install an Anchor you'll receive both praise and profit! Write today for complete information and prices. Anchor Division, Stratton & Terstegge Co., P.O. Box 311, New Albany, Indiana.

ANCHOR the manufacturers of

ANCHOR OIL BURNER


MANY PATENTS PENDING
VITREOUS ENAMELLED PLATE RACK
"MONITE" VAPOR DIFFUSING PLATES INCREASE EVAPORATION 1750%
VITREOUS ENAMELLED PAN
SIDE ROD SUPPORTS
HUMIDITY CONTROL 4 TYPES VISIBLE FEED & WATER LEVEL
HAND HOLE COVER IS INCLUDED

MONMOUTH HUMIDIFIERS

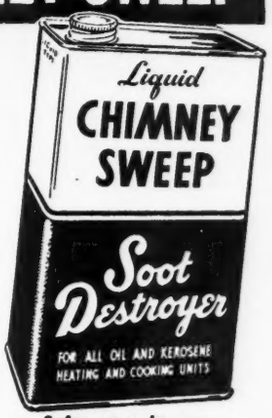
There are many humidifiers for warm air systems on the market. Some of them sell for next to nothing. But unless such an automatic device gives high efficiency and continuous dependable service—*any* amount of money is simply thrown away on it.

With a Monmouth Flotrol or a Micro-Feed, both very profitable items for you in the first place, this profit is *not* eaten up by service calls. Designed on engineering principles which are unequaled, built of the finest materials, Monmouth is strictly a precision product, yet costs little more than makeshift devices. Use genuine Monmouths on your jobs—they save everybody money in the end. We also make gas-fired Humidity Conditioners for all radiator systems. Details and prices on request.

THE CLEVELAND HUMIDIFIER CO.

7808 Wade Park Ave., Cleveland 3, Ohio.

WANTED by OIL USERS
Liquid CHIMNEY SWEEP



FOR OIL BURNERS, ROOM HEATERS, KEROSENE STOVES AND RANGES.

Liquid Chimney Sweep, sensational war-time discovery, quickly helps clean out soot and prevent soot from forming. Helps dissolve and remove gum deposits, sludge and water. Reduces oil odors. Retards rust and corrosion. Helps prolong life of burner.

Safe, easy to use. Just pour in fuel oil tank.

Size	Recommended Use		Per Case	List Price Per Case	Retail Price*
Pt.	Treats 125 Gal. Fuel Oil	After first application reduce by one-half	1 doz.	$15.48	$1.29
Qt.	Treats 250 Gal. Fuel Oil		1 doz.	27.48	2.29
½ Gal.	Treats 500 Gal. Fuel Oil		1/3 doz.	17.16	4.29
1 Gal.	Treats 1000 Gal. Fuel Oil		1/3 doz.	31.56	7.89

*Fair Trade Price Protected

ORDER NOW—in Case Lots for best discount.

G. N. COUGHLAN CO., West Orange, New Jersey

You Know at a Glance!

Write for complete details.

No guessing with AT-A-GLANCE. You know too, that they are guaranteed leak-proof — are "tailor-made" to fit all tank sizes and shapes — are sturdily built to withstand excessive pressure, and are fully Underwriter listed.

KRUEGER *Sentry* GAUGES

GREEN BAY • WISCONSIN

FROM THE MALE OF THE MONTH

ROTOFLAME

OIL EQUIPMENT LABORATORIES, Inc. ELIZABETH 4 NEW JERSEY

DRILL HOLES IN CONCRETE
Faster—Easier—Cleaner—

ROTARY CONCRETE DRILL BITS

WHENEVER and wherever you want to drill holes in concrete, rock, brick, tile, use rapid, easy-going Rotary Bits. You'll get clean, sharp precision holes due to exclusive *pulverizing* action. Eliminate spoilage. Diamond dressed cutters are set in blunt end of bit at correct angle for speed, ease, and long life. Rotary Bits are *not* injured by heat or extreme pressure. No hammer or chisel needed. Merely place in any ordinary rotary drill and apply pressure. All standard sizes from ¼" to 2". Larger upon order. Highest in quality, material and workmanship.

¼" $4.20 ½" $9.00 1" $21.00 Postage Prepaid.
Other Sizes in Proportion.
Satisfaction Guaranteed.

FREE SHARPENING

MAIL COUPON NOW!

ROTARY CONCRETE DRILL COMPANY
650 S. Arroyo Parkway, Pasadena 2, Calif.
☐ Rush — postpaid ___¼" ___½" ___1" Bits.
Enclosed ☐ check ☐ money order for $_____
☐ Send Illustrated Folder.

NAME _____
ADDRESS _____
CITY _____ ZONE ____ STATE ____

F 148

plant contains up-to-date equipment and features some unique innovations. The entire building has been laid-out to permit all material handling by trucks, with materials progressively worked through the plant to arrive at the shipping department ready to be loaded.

Promote Three Executives Of Eureka Williams Corp.

DECEMBER promotions of three executives of Eureka Williams Corp., Bloomington, Ill., have been announced. G. H. Bernard advanced from vice president in charge of manufacturing to vice president and assistant to the president. He will serve in an executive capacity on manufacturing and engineering, specializing in product development and production.

L. to r.: *Brennan, Nesmith, and Osborn.*

O. E. Nesmith, vice president in charge of engineering, was named vice president in charge of manufacturing, to succeed Mr. Bernard. Mr. Nesmith has been with the organization since 1920 and was a Williams Oil-O-Matic executive when it merged with Eureka several years ago. After a number of years in oilburner service and development work, he became head of the Williams Institute of Heat Research, formed to study oilheating. In 1941, when the company received its first defense contract, he was placed in charge of manufacturing and engineering. After the war he supervised the expanded engineering and research laboratories of the company.

To succeed Mr. Nesmith, R. C. Osborn, formerly engineer in charge of product development for Eureka, has been named chief engineer for the entire corporation.

McDonnell Sweepstakes Revived After Lapse Of Six Years

MCDONNELL SWEEPSTAKES, which were conducted from 1935 through 1941 and then suspended for the war years, were revived with the traditional drawing on Christmas Eve for valuable prizes. E. N. McDonnell, president, McDonnell & Miller, Inc., Chicago, originated the idea, consisting of selecting five names to whom prizes are sent. The company mails to those invited to participate a ticket, the stub from which goes into the grab bag from which names are picked.

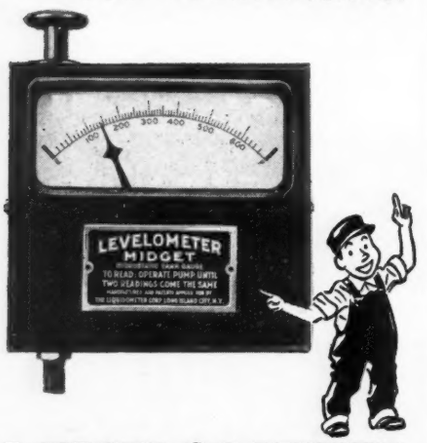
Prizes in the 8th running of the Sweepstakes consisted of a matched set of fifteen golf clubs, two G-E electric blankets and two sets of Gerber carving knives.

Homer Furnace Resumes Making Repair Parts

RESUMPTION of the manufacture of a wide range of repair and replacement parts for furnaces and boilers of various makes has been announced by Homer Furnace & Foundry Corp., Coldwater, Mich. R. B. Strong, vice president, in making the announcement, explained that prior to World War II, which interrupted production, the firm was a major producer of heating plant replacement parts.

A catalog giving complete listing of

A GOOD GAUGE COMPLETES A GOOD INSTALLATION

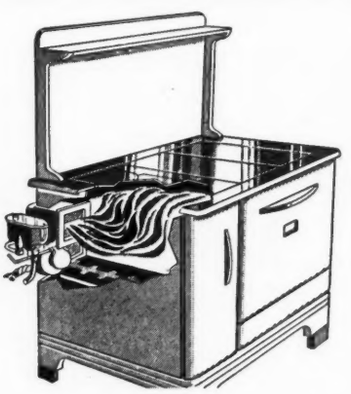


LEVELOMETER
Tank Gauges
"THEY'RE ALWAYS DEPENDABLE"

"LIQUIDS WORTH STORING ARE WORTH MEASURING"

THE LIQUIDOMETER CORP.
36-19 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

Profits!
Through the
SUPER-THERM
Combination
OIL BURNER



SALES prospects for this modernizing, easily installed oil burner are *all* owners of gas, wood and coal stoves and ranges. Super-Therm fits any size stove, front or rear —will last a lifetime—will not soot or smoke—has automatic safety features. Write now for details and *dealer profit* facts.

THERM OIL BURNER CO.
Pioneers of the Oil Burning Industry
2105A Westlake Avenue
SEATTLE 1, WASHINGTON

BUILT For BETTER CLEANING

the GRAND RAPIDS deluxe FURNACE CLEANER

Model of the Doyle Vac-It

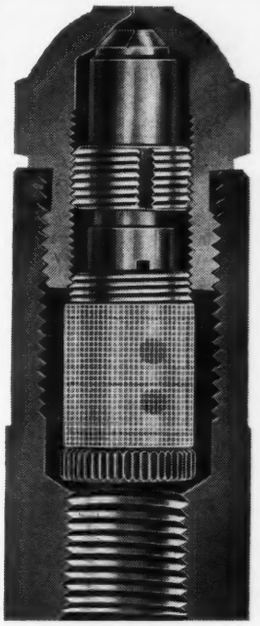
Built by men who understand the problems of furnace cleaning, the Grand Rapids Furnace Cleaner has been developed into a highly serviceable unit meeting all the requirements for faster, easier and more profitable cleaning.

Visit the
GRAND RAPIDS FURNACE CLEANER BOOTH
at the eighth
INTERNATIONAL HEATING AND VENTILATING EXPOSITION
TIME: February 2nd to 6th 1948
PLACE: Grand Central Palace, New York City

This is the ideal time and place to drop in and talk to us about your furnace cleaning requirements for the coming season. Let us help you get an early start for a big furnace cleaning year. Plan to place your orders with us at the show, or do so now! Your choice of immediate or future delivery.

Doyle VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Michigan



ATOMIZATION
INDIVIDUALLY TESTED & CALIBRATED

SPRAY ANGLES
AVAILABLE IN ALL SIZES, ARE MEASURED WITH SCIENTIFIC PRECISION

CAPACITY RATINGS
AVAILABLE IN ALL SIZES, ARE GAGED BY FLOW INDICATOR TO INSURE UNIFORMITY

for
PERFECT
NOZZLE
PERFORMANCE
COMBUSTION
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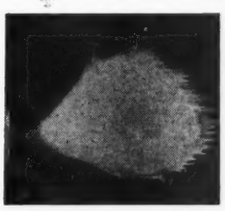
STEINEN PRODUCT

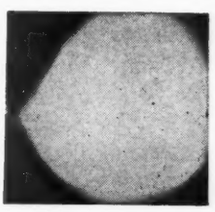
STEINEN MFG. CO.
NEWARK 5, N. J.

Mfr's of Oil Burner Accessories

This Change

On Any Burner.





Same Burner, Same Tip. Actual photos from open flames.

Combustion head change saves 30%

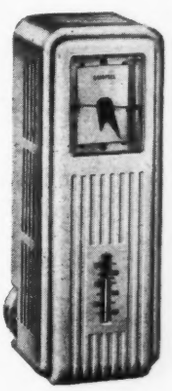
We make the only Hollow Flame gun type burner and can provide Hollow Flame Combustion Heads for any other burner.

Mr. Brophy, one of our dealers writes: "When they see the change your head makes on the —— burners I used to sell they do not want just the head. They want a complete new AIRFLAME Burner. I'll be busy with replacements all winter."

Boiler-Burner Units now ready from ¾ to 2½ g.p.h. Burner-Furnace units ready soon.

Airflame

648 McAlister Ave. **Waukegan, Ill.**



Sampsel Day-Night Clock Thermostat

A Complete Line of Quality Controls

There is a complete line of proven, dependable Sampsel controls for finer performance, easy installation, and freedom from servicing. Write for illustrated catalog.

SAMPSEL TIME CONTROL, INC., Spring Valley, Ill.

Sampsel
AUTOMATIC CONTROLS

Canadian Sales Distributor: PEASE FOUNDRY CO., Ltd., Toronto 1

STAR ALLOY FIREBOX!

STAR

CONDUIT BRACKET

FAST, NEAT, QUIET

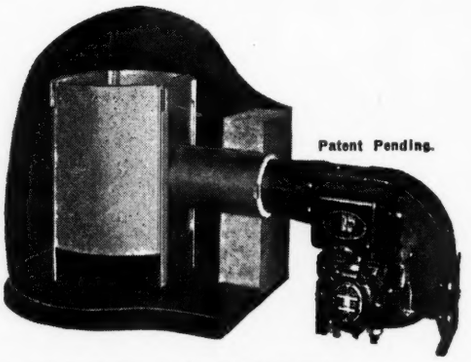
The Star conduit bracket holds 14-2 or 14-3 bx cable or ½" conduit to furnace or boiler casings. It provides air space between conduit and heated surface as required by electrical codes and reduces conduit hum. PRICE $5.50 PER HUNDRED. *Free sample on request.*

INCREASES EFFICIENCY—

REDUCES COST

The Star Firebox is made of high heat resisting stainless steel formed in rounded sections that improve firing. IT IS EASILY ASSEMBLED IN LESS THAN 3 MINUTES. HEAT IS RADIATED ALL AROUND THE Star Firebox thereby adding up to 25% to the furnace heating area! Especially useful in cast iron furnaces where it eliminates cutting grate lugs. Sold and used from coast to coast.

Further information on request.



Patent Pending.

MECHANICAL PRODUCTS COMPANY

1723 1st. Avenue So. • Seattle 4, Washington

available parts has been prepared and is available on request. The company plans to speed delivery directly to warehouses and volume buyers by using its own fleet of trucks.

Sid Harvey Branches Celebrate Christmas

COMMENCING with an affair held in Philadelphia by Sid Harvey of Pa., Inc., on December 13, three other parties were held by Sid Harvey branches to celebrate Christmas and to mark the close of a record breaking year in sales volume. Sid Harvey of Mass., Inc., celebrated in Boston on December 15, followed by Sid Harvey of N. J., Inc., in Newark on December 17.

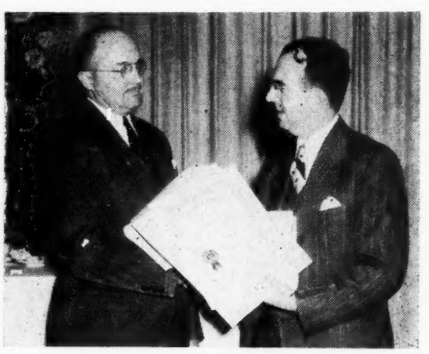
The fourth and largest party was held at Valley Stream, N. Y., by the parent company, Sid Harvey, Inc. Guests numbered 162, including the presidents of affiliated companies, and heard outlined plans for the coming year. At the close of the party, George Premo, of the Pump Testing Dept., presented Sid Harvey with a nautical-style desk set, consisting of an electric clock, a barometer, hydrometer and thermometer.

Field Controls Adds Three Representatives

THREE REPRESENTATIVES in various territories have been added to the field force of Field Control Div., H. D. Conkey & Co., Mendota, Ill. E. M. Clary will service accounts in Alabama, Georgia and Florida and will maintain headquarters in Atlanta, Ga.; Fred H. McGee, Chattanooga, will supervise distribution of Field barometric controls in the state of Tennessee; Paul R. Jett in eastern Missouri and southern Illinois.

H. B. Smith Co. Honored For Long Use Of Trade Names

AT A LUNCHEON of the Springfield (Mass.) Advertising Club, Brand Names Foundations, Inc. recently honored the H. B. Smith Co., Inc., Westfield, Mass., by awarding the company three certificates commemorating long usage of its trade names. S. K. Smith, president, accepted the certificates for the company from Henry E. Abt, president, Brand Names Foundations.



L. K. Smith, *left, accepts Brand Names' award from Henry E. Abt.*

The brand name "H. B. Smith" has been used to describe cast iron boilers

REMOVE SOOT AND CARBON QUICKLY

CLEAN SWEEP

An ALL PURPOSE Soot Remover that thoroughly cleans all types of burners while hot.

Approved by oil burner manufacturers and testing laboratories. Will not clog holes, leave a residue or overheat vital parts. Also effective in gas and coal units. Special Clean Sweep sprayer for faster, more economical service available.

"CLEAN BURNERS SAVE FUEL"

CLEAN SWEEP CO. P. O. BOX 156 SO. LANSING 9, MICH.

LOOK FOR THE BROOM ON THE PACKAGE

STANDARD

Automatic

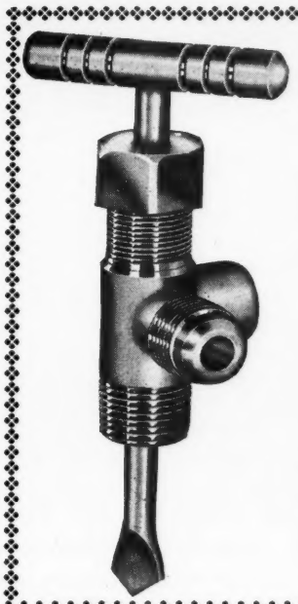
OIL BURNERS

WE SWEAR BY THEM—
NOBODY SWEARS AT THEM

Twenty Years of Superior Service

STANDARD ARCOIL CORP.

21-23 Broad Street Newark 4, N. J.

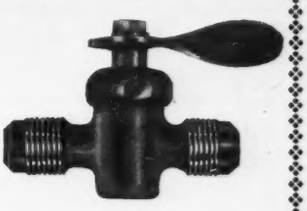


Brass Fittings

Flared tube, compression and special fittings.
Forged flared tube refrigeration fittings.
Copper tube assemblies manufactured to your specifications.
Pot type oil burner carbon reamers.

Write for our free catalog

SPAN SCREW PRODUCTS
AND MANUFACTURING COMPANY
601 SOUTH WILMOT STREET • OTSEGO, MICHIGAN



and heating systems for ninety-four years. "Mills," as a trade name has been used uninterruptedly since 1870 and boiler grates have been designated "Reed" since 1889.

Debler Handles Skuttle; Reveals Expansion Plans

ANNOUNCEMENT has been made of the appointment of William J. Debler & Sons as exclusive representative in the sixteen eastern seaboard states for Skuttle Mfg. Co., Detroit 7, Mich., makers of automatic humidifiers. Expansion plans revealed by the Debler organization include acquisition of office space at 104 South 21st St., Philadelphia, for a headquarters office.

W. J. Debler, Sr.

The firm covers the eastern seaboard territory as manufacturers' sales representatives, headed by William J. (Bill) Debler, well-known in the oilburner industry. In 1922 he started as Kleen Heet distributor in New England and later became Boston and Philadelphia branch manager for Silent Automatic. In 1930 he established his own company as Philadelphia dealer for Petro-Nokol burners.

The present Debler company covers its territory with William J. Debler, Jr. serving New England out of Boston; Fred G. Ball active in the metropolitan New York area up to Mt. Kisco and Walter B. Stamberger working in northern New Jersey. Bill, Sr. covers the balance of New Jersey, south to South Carolina, northern New York state and also occupies the position of general manager of the whole set-up. The company will continue to operate branches in Boston and Newark.

Sorrell Purchases Stock Of Homestead Equipment

RECENT CHANGES in the corporate set-up of Homestead Equipment and Manufacturing Corp., Kew Gardens 15, N. Y., saw S. S. Sorrell purchase all stock and assume responsibility for purchases and other activities. The company manufactures Auto-Flame gun type oilburners and other oilheating equipment. John J. Morro has withdrawn entirely. He was prominent in the organization of the company and assisted in the design of the equipment.

Perfection's Sixtieth Year Opens With Sales Meeting

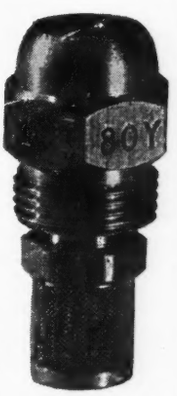
A FIVE DAY national sales meeting, January 5-9, attended by 100 of its sales representatives inaugurated the sixtieth year of business of Perfection Stove Co., Cleveland, Ohio. The first meeting of the session was held in the company's million dollar research center following

Ace Nozzles

Products of 26 years' experience in the design and production of oilburners. Extreme Precision—Guaranteed Accuracy.

All Capacities and Angles
"For those who want the best"

Ace Cooperating Engineers
903 Wrightwood Ave. Chicago 14, Ill.
OSCAR C. SCHROEDER, Owner



HAYWARD OIL BURNERS

ROTARY and PRESSURE ATOMIZING TYPES

Dealer and Distributor
Inquiries Invited.

HAYWARD MFG. CO., INC.
505 COURT STREET BROOKLYN 31, N Y

Guaranteed EVEN HEAT DISTRIBUTION

QUICKLY... ON ONLY 4 TO 8 OUNCES of VAPOR

THE GORTON SYSTEM of VAPORIZING and EQUALIZING existing steam heating systems for automatic heating provides automatic heat distribution . . . The flow of vapor to all radiators is automatically controlled so that rooms farthest from the boiler are heated as quickly as those near the boiler . . . NO PIPING CHANGES ARE REQUIRED.

THE SURE CURE FOR COLD RADIATORS

WRITE TODAY FOR BULLETIN NO. 115C.

Manufacturers of High Grade Heating Equipment Since 1887.

CRANFORD GORTON HEATING CORP. NEW JERSEY

a breakfast held the morning of the 5th. Representatives also toured the new engineering research center, the Ivanhoe plant, where an extensive program is in progress, and witnessed fabrication of the company's complete line.

District, office and credit managers of each sales district, branch office salesmen and members of the furnace sales force attended the convention. Plans were handled by a committee, which F. A. Gabriel, sales manager, stove and heater division, headed. Others on the committee were: C. H. Foulds, general sales manager; Norman E. Olds, advertising manager; O. H. Larimer, assistant sales manager, stove and heater div.; E. B. Goodwin, furnace sales manager and Marc Resek, chief engineer.

Sun Oil Booklet Urges Consumers To Conserve

ALMOST 100,000 copies of a booklet, "Helpful Hints For Conserving Fuel Oil" will be distributed by Sun Oil Co., Philadelphia 3, Pa., as part of its campaign to urge conservation measures upon its customers. Copies already have been mailed to all the company's direct heating oil accounts, and distributors have been furnished sufficient quantities to care for all their customers. The booklet is accompanied by a letter explaining the reasons for the present tight supply of heating oils and suggests that consumers adopt conservation measures enumerated in the booklet.

The 12-page pamphlet discusses in non-technical language the principles behind and reasons for keeping the entire heating plant clean and in proper adjustment and briefly explains steps to

PREFERRED DRAFT-A-JUSTOR

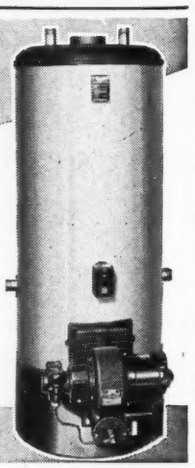
The Original. Still the Best. Hundreds of Thousands in Use. • Holds the draft constant in the fire box. • Scientific draft control for the smallest to the largest jobs. • Stove, domestic, and commercial sizes from 4" to 24" in diameter. • Industrial sizes from 24" x 24" to 5' x 12'.

Write for literature and trade price

PREFERRED UTILITIES Mfg. Corp.
1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

Bock OIL BURNING WATER HEATERS

TWO BURNER TYPES — VAPORIZING WITH ELECTRIC IGNITION FOR THE SMALL JOB—PRESSURE ATOMIZING FOR THE LARGER. THE BEST IN OIL WATER HEATERS.



Bock CORPORATION
MADISON, WISCONSIN

BEST BUY FOR 1948

Nationally known boiler - burner manufacturer now has available

BOILER, OIL BURNER, 275 Gal. TANK & CONTROLS

Consisting of:

• 1 # 203 Series BOILER, Mfg. rating 500' EDR—equipped with extended jacket, tankless coil, combustion chamber, low water cut off.
• 1 OIL BURNER, approved by Underwriter's Laboratories Inc., Standard Board of Appeals, and Commonwealth of Massachusetts.—2½ gal. per hour, including 4 controls, thermostat, relay, pressure controls, aquastat.
• 1 Fuel Oil Storage Tank of 275 gal. capacity.

PRICE SO LOW

That *FUELOIL & OIL HEAT*

WILL NOT ALLOW US

TO PUBLISH IT!

For further information, write to manufacturer's representative on your stationary.

MR. BROWN
ROOM 306, 92-32 UNION HALL STREET
JAMAICA 2, NEW YORK

Highest Quality joined with
Accuracy and Workmanship---
Responsibility gives you great
Satisfaction and fullest
Confidence toward our
HARSCH Nozzles!

H. HARSCH & CO., INC., 230 TUSCAN ROAD, MAPLEWOOD, N. J.

be followed. Two tables are included to portray convincingly the amount of fuel wasted during a heating season by maintaining house temperatures at 75° and 80°, as compared with 70°, and the per cent of fuel that can be saved by reducing thermostat settings to lower temperatures for a six-hour night period.

Iron Fireman Cited Again For 1946 Financial Report

FOT THE FOURTH consecutive year Iron Fireman Mfg. Co., Portland 1, Ore., has been cited by *Financial World*, business weekly, for producing the second best 1946 annual report in the Household Equipment Industry. The report also was adjudged worthy of the "highest merit award" in competition with reports from all industries. Last year the company's report won first place in all-industry competition.

The statement was in the form of a colorful, 24-page brochure, reciting the story of the twenty-four-year-old company.

Revere Offers Non-Technical Discussion of Panel Heating

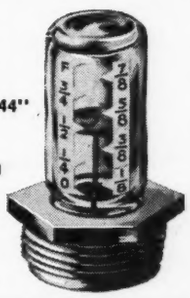
A NON-TECHNICAL DISCUSSION of radiant panel heating, available from Revere Copper and Brass, Inc., 230 Park Ave., New York 17, N. Y., was prepared by its Research and Development Dept. The foreword of the 38-page book explains that Revere is a fabricator of material used successfully in all types of heating systems and compiled data on radiant heating as an aid to customers and prospective customers who are seek-

Safe for Pressure Filling! Easier to Install!

Leak-Pruf KING GAUGE

King Gauge eliminates trouble and wear. There are no gears, springs or magnets to get out of order. Can be installed with the finger-tips in full or empty tanks. Visible from all angles. Furnished with 1½" or 2" bushing. FIG. K-G. 26"-27" — FIG. K-G. 42"-44"

Export Dept.: 44 Whitehall St., N. Y., U.S.A.



OIL EQUIPMENT MFG. CORP.

Formerly Petroleum Equipment Mfg. Co.

75 Brewster St., New Haven, Conn.

Sundstrand OIL BURNERS

FOR
• CLEAN
• QUIET
• ECONOMICAL
• AUTOMATIC HEAT

POPULAR WITH DEALERS FOR OVER 26 YEARS

WRITE US FOR COMPLETE INFORMATION

SUNDSTRAND ENGINEERING CO.
ROCKFORD, ILLINOIS

Our Franchised Dealers

for **"PERCOFLASH"**

Boilers are doing a fine job. They keep fuel costs down — customers happy!

WESTCOTT—ALEXANDER, Inc.

Madison, New Jersey

E-Z FUEL OIL SOOT DESTROYER

Spray It—

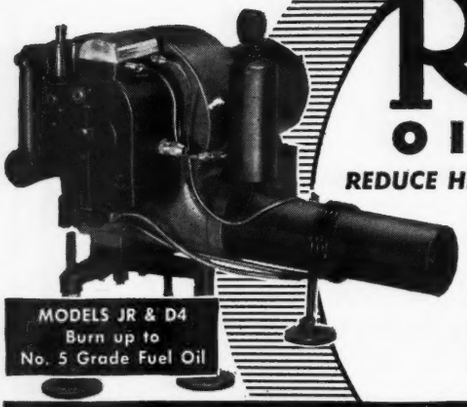
One application does the job.

E-Z Fuel Oil Soot Remover removes all soot from flues. Easy—fast—safe. Engineers like it. Saves many times its cost in fuel. If your Distributor cannot supply you, order direct.

No. 1 pkg. Approx. 1 lb. .....List $1.00 ea.
No. 5 pkg. Approx. 5 lbs. .....List $4.50 ea.

Distributors: Write for our proposition.

HEALY-RUFF COMPANY
797 HAMPDEN AVENUE, ST. PAUL 4, MINNESOTA



RAYFIELD AUTOMATIC OIL BURNERS

REDUCE HEATING COSTS . . . INCREASE PROFITS

These two sturdy, efficient oil burners are built to give years of satisfactory service. Models for No. 5 heavy fuel oil operate on the diesel principle with a 2-cylinder compressor unit, integral oil pump, automatic pre-heating and lubrication. The Model L-3 for No. 3 oil is a precision-machined unit ideal for conversion installations with capacities up to 5 G.P.Hr.

C. L. RAYFIELD CO., 2010-18 S. Halsted St., Chicago 8, Ill.

ing authoritative factual data.

Many charts and photographs accompany the copy written for the layman, which opens with definitions and explanations of heating systems in general, radiant heating and panel heating systems. There follow discussions of panel heating advantages, after which the claimed and assured disadvantages of the systems are enumerated, with each one refuted or corrected. Closing chapters are devoted to the relative merits of floor vs. wall vs. ceiling panels and the best method of distributing heating surface.

Throughout the book there is no attempt to reach any conclusions, but merely an effort to present unquestioned facts disinterestedly.

Two Representatives Named To Handle Klemm Oil Filters

KLEMM Automotive Products Co., Fuel Oil Div., Chicago 47, Ill., has named two sales representatives to handle domestic fueloil filters, featuring Chemistone porosity elements. In the Middle Atlantic territory, comprising Pennsylvania, New Jersey, Maryland and Washington, D. C., distribution will be supervised by F. M. Eversden & Associates, Philadelphia. F. W. Gibson, Needham, Mass., will cover the six New England states.

Airtemp Names Managers In Three Sales Regions

THREE REGIONAL MANAGERS have been announced by N. A. Malcom, vice president and general manager, Airtemp Div., Chrysler Corp. E. B. Stotz has been advanced from the position of field engineer to become manager of the Atlanta region; F. J. Laughna has been transferred from the Dayton region to manage the Detroit region; R. W. Steinbaugh, former Dayton district representative, moves up to assume the post vacated by Mr. Laughna.

Ohio Motor Production At All-Time High Mark

ELECTRIC MOTOR production at Ohio Electric Mfg. Co., Cleveland, Ohio, has reached an all-time high, according to a recent announcement by Chester Bland, president. Daily output was revealed at 1200 motors, with total October production reported in excess of 25,000 units. November deliveries fell below this figure due to the Thanksgiving holiday shutdown. The company is producing fractional horsepower motors for domestic oilburner use and similar applications.

General Filters Names Eastern Representatives

TWO REPRESENTATIVES, named by General Filters, Inc., Detroit, Mich., effective January 16, will operate in the eastern seaboard territory, concentrating their efforts on distribution of General fueloil filters.

Vincent B. Kathe, who has been with the company since 1937 in the automotive division and, more recently, in the Pacific coast area, will cover the northern portion of the area. Les Sheldon will operate in the Mid-Atlantic section. Mr. Sheldon also joined General in 1937, pioneering application of its filters to oilburners, working with manufacturers and oil companies.

SPECIFY FOR LONG TERM SERVICE

Nuaveo ORIFICE CONTROL

AIR VALVES DESIGNED ESPECIALLY FOR OIL BURNING OR AUTOMATICALLY FIRED HEATING.

Send for Catalog and Wholesaler Discount Sheets

NEW YORK AIR VALVE CORPORATION

611-621 BROADWAY, NEW YORK 12, N. Y.

To Oil Salesmen:

You can greatly increase your earnings, especially during the current fuel oil shortage, by handling THE *complete* fuel oil treatment that is nationally advertised in engineers' publications. Principally used in heavy fuel oils, also for light oils. Some exclusive territories still open. Write for descriptive literature and full information.

Address Box 682

c/o Fueloil & Oil Heat

232 Madison Ave. New York 16, N. Y.

Plasgon MAKES JOINTS PERMANENT - - - LEAKPROOF

No Heating or Thinning . . . No Special Treatment!

Plasgon makes tight, trouble-free pipe joints that resist considerable pressure and heat up to 350° F.... proof against oil, steam, gasoline, kerosene and other common solvents. A Plasgon joint is tough and flexible ... cannot be dislodged by shock or jarring.

Plasgon is the ideal seal for flanged, threaded, and sleeve joints.

FREE SAMPLE TUBE . . . Write today for a free sample and complete information about Plasgon. When used as an adhesive Plasgon will join porous or non-porous materials so as to withstand a shearing stress of over 200 pounds per square inch.

Samuel Cabot, Inc.
2270 Oliver Building, Boston 9, Mass.

Innocent Abroad

(*Continued from page* 104)

secures a license to purchase oil and then obtains a fueloil contract, both of which are very tight. Carat and its dealers are in a favorable position for only recently they began to work on their last 1,000 installations for which oil was licensed and contracted some time ago. Before additional burners are installed, oil supplies must be given a chance to catch up with the demand.

Coal is beginning to arrive from Poland and the United States and, as the quantity increases, the drain on Swedish domestic wood supplies and the need for oil will decrease.

It is safe to say that American burners will not be licensed for import until the dollar situation becomes more favorable and this is dependent on the entire European economic structure. Prior to the war, the United States made purchases from Germany, France and other countries paying in dollars. These countries in turn bought from Sweden, paying in dollars which enabled the Swedes to make substantial purchases in the States. With the United States far more self-sufficient than Sweden, it is impossible for use to make sufficient purchases from Sweden so as to give the latter an adequate supply of dollars for them to buy all of the manufactured goods they need from the United States.

Next year Sweden's purchases of coal alone will consume many dollars and because Sweden cannot continue to eat into its wood supply and because coal can be hand fired, American burners will undoubtedly be severely restricted.

Potential Is Great

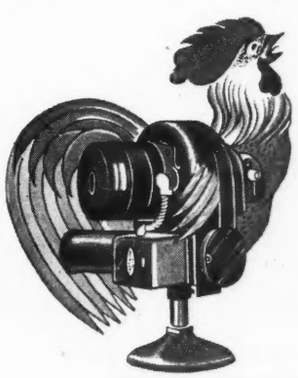
The potential for oil burning equipment definitely exists, in fact, the potential is so great that keen competition will come from many quarters. Burners are being produced in Sweden with the number of American components decreasing. Some have tried producing their own pumps and will in all probability succeed in turning out a highly satisfactory unit. Burners are being manufactured in other European countries and as their production increases the competition for the Swedish market will become keener.

One thing is clear: when the Swedish market does open up again, it will be a buyer's market and the manufacturer who has neglected to establish himself with a reputable merchandising organization will pay for his short sightedness. We feel fortunate in having had a part in establishing Maskinaktiebolaget Carat, which is generally recognized as the leading oil burner distributor in Sweden.

◈

Thomas F. McGarey has been elected senior vice president and director, Petrol Corp., Philadelphia 3, Pa. He is well-known in oil circles having served in executive positions with independent and major companies in the East during the past eighteen years, and was associated with Petrol as an executive several years ago.

William H. Collins has become director of advertising, Dravo Corp., Pittsburgh, Pa. He served nearly five years with the U. S. Navy and presently is active in several Naval Reserve groups.



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DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	November		Percent		(Sept. 1 to Nov. 30)			Percent
Normal	1946	1947	Change*		Normal	1946	1947	Change*
756	670	881	+ 16.5	Albany	1282	1106	1328	+ 3.5
393	241	488	+ 24.1	Atlanta	535	364	544	+ 1.6
531	379	561	+ 5.6	Baltimore	795	524	730	— 8.2
651	515	715	+ 9.8	Boston	1087	812	1016	— 6.6
747	614	810	+ 8.4	Buffalo	1282	995	1167	— 9.0
709	678	855	+ 20.5	Chicago	1127	985	1136	+ 0.7
613	432	653	+ 6.5	Cincinnati	939	1051	811	— 13.7
688	569	811	+ 17.8	Cleveland	1134	854	1084	— 4.5
298	273	412	+ 38.2	Dallas	373	320	421	+ 12.8
721	842	903	+ 25.2	Denver	1260	1462	1250	— 0.8
768	764	914	+ 19.0	Des Moines	1224	1142	1174	— 4.1
753	632	835	+ 10.8	Detroit	1249	945	1163	— 6.9
768	654	846	+ 10.1	Grand Rapids	1327	990	1174	— 11.6
691	587	759	+ 9.8	Hartford	1165	917	1155	— 0.9
940	1127	1117	+ 18.8	Helena	1829	2254	1905	+ 4.1
162	129	182	+ 12.3	Houston	189	142	182	— 3.8
663	592	772	+ 16.4	Indianapolis	1027	798	970	— 5.6
599	555	749	+ 25.0	Kansas City	891	751	866	— 2.9
110	190	132	+ 20.0	Los Angeles	158	265	147	— 7.0
550	428	633	+ 15.0	Louisville	802	587	765	— 4.7
788	781	968	+ 22.8	Milwaukee	1317	1242	1354	+ 2.8
943	962	1152	+ 22.1	Minneapolis	1590	1590	1565	— 1.6
147	94	140	— 4.8	New Orleans	170	94	372	+118.8
600	449	631	+ 5.1	New York	925	610	841	— 9.1
741	755	886	+ 19.5	Omaha	1147	1112	1134	— 1.2
548	475	598	+ 9.1	Philadelphia	820	672	783	— 4.6
656	550	773	+ 17.8	Pittsburgh	1049	803	1010	— 3.8
792	735	777	— 1.9	Portland, Me.	1430	1317	1245	— 13.0
540	656	498	— 7.8	Portland, Ore.	947	1214	840	— 11.3
675	568	703	+ 4.1	Providence	1142	891	1001	— 12.4
558	527	734	+ 31.5	St. Louis	812	706	893	+ 9.9
712	801	890	+ 25.0	Salt Lake City	1184	1517	1278	+ 7.9
242	392	291	+ 18.2	San Francisco	504	722	537	+ 6.5
965	937	1034	+ 7.1	Sault Ste. Marie	1860	1725	1699	+ 8.7
558	686	572	+ 2.5	Seattle	1104	1319	1087	— 1.6
721	647	850	+ 17.8	Toledo	1188	975	1175	— 1.1
558	377	558	..	Washington	855	526	718	— 16.1

*Compared with normal.